AGATA ROZGA
SENIOR RESEARCH SCIENTIST
SCHOOL OF INTERACTIVE COMPUTING
GEORGIA INSTITUTE OF TECHNOLOGY

I. EARNED DEGREES

Ph.D.	2007	University of California, Los Angeles	Developmental Psychology
M.A.	2002	University of California, Los Angeles	Developmental Psychology
B.A.	2000	University of California, Berkeley	Psychology

II. EMPLOYMENT HISTORY

Senior Research Scientist	June 2015 – present	Georgia Institute of Technology, Atlanta, GA
Research Scientist II	Jan. 2010 – May 2015	Georgia Institute of Technology, Atlanta, GA
Postdoctoral Fellow	Jan. 2008 – Dec. 2009	Georgia State University, Atlanta, GA
Therapist	Apr. 2002 – June 2003	Behavior Analysts Inc., Walnut Creek, CA

III. HONORS AND AWARDS

2013	Outstanding Research Scientist Award, GT College of Computing
2008	Postdoctoral Fellowship, Center for Behavioral Neuroscience, GSU
2008	Best Developmental Psychology Dissertation Award, UCLA
2001	Jacob K. Javits Predoctoral Fellowship, U.S. Department of Education
2000	Edwin Pauley University Fellowship, UCLA

IV. RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

A. PUBLISHED BOOKS, PARTS OF BOOKS, AND EDITED VOLUMES

A1. Books

None

A2. Refereed Book Chapters

None

A3. Other Parts of Books

Rozga, A., Andersen, S., & Robins, D. (2011). Major current neuropsychological theories of ASD. In D. Fein (Ed.), *The Neuropsychology of Autism* (97-122). Oxford University Press: New York.

Beckwith, L., Rozga, A., Sigman, M. (2002). Maternal sensitivity and attachment in atypical groups. In R.V. Kail (Ed.), *Advances in Child Development and Behavior*, *Vol. 30* (231–274). Academic Press.

Sigman, M., Dijamco, A., Gratier, M., & Rozga, A. (2004) Early detection of core deficits in autism. *Mental Retardation and Developmental Disabilities Research Reviews, 10*(4), 221–233.

A4. Edited Volumes

None

B. **REFEREED PUBLICATIONS AND SUBMITTED ARTICLES**

B1. Published and Accepted Journal Articles
*(*publications with student co-authors)*

*Edmunds, S.R., Rozga, A., *Li, Y., *Karp, E.A., Ibanez, L.V., Rehg, J.M., Stone, W.L., (2017). Using a point-of-view camera to measure eye gaze in young children with autism spectrum disorder during naturalistic social interactions: A pilot study. *Journal of Autism and Developmental Disorders, 47(3)*, 898–904.

Jones, R.M., *Southerland, A., *Hamo, A., *Carberry, C., *Bridges, C., *Nay, S., *Stubbs, E., Komarow, E., *Washington, C., Rehg, J.M., Lord, C., & Rozga, A., (2017). Increased eye contact during conversation compared to play in children with autism. *Journal of Autism and Developmental Disorders, 47(3),* 607–614.

Kunda, M., Rozga, A., Soulieres, I., & Goel, A. (accepted). Error Patterns on the Raven's Standard Progressive Matrices Test. *Intelligence, 59,* 181–198.

*Gupta, R., *Audhkhasi, K., *Jacokes, Z., Rozga, A., & Narayanan, S., (2016). Modeling multiple time series annotations based on ground truth inference and distortion. *IEEE Transactions on Affective Computing*. doi: 10.1109/TAFFC.2016.2592918.

Smith, C., Rozga, A., Matthews, N., Oberleitner, R., Nazneen, N., & Abowd, G. (2016) Investigating the accuracy of novel telehealth diagnostic approach for Autism Spectrum Disorder. *Psychological Assessment,* Epub ahead of print.

*Nazneen, F., Rozga, A., Smith, C., Oberleitner, R., Abowd, G.D., & Arriaga, R. (2015). A novel system for supporting autism diagnosis using home videos: Iterative development and evaluation of system design. *JMIR mHealth and uHealth*, *3*(2), e68.

Rozga, A., King, T.Z., Vuduc, R.W., & Robins, D.L. (2013). Undifferentiated facial electromyography responses to emotional stimuli in individuals with autism spectrum disorders. *Developmental Science, 16*(4), 499-516.

Hutman, T., Rozga, A., DeLaurentis, A., Sigman, M., & Dapretto, M. (2012). Infants' pre-empathic behaviors are associated with language skills. *Infant Behavior & Development, 35*(3), 561-569.

*Nazneen, F., Rozga, A., Romero, M., Call, N., Findley, A., Abowd, G., & Arriaga, R. (2012). Supporting parents for in-home capture of problem behaviors of children with developmental disabilities. *Journal of Personal and Ubiquitous Computing, 16*(2), 193-207.

Rozga, A., Hutman, T., Young, G. S., Rogers, S., Ozonoff, S., Dapretto, M., & Sigman, M. (2011). Behavioral profiles of affected and unaffected siblings of children with autism: Contribution of measures of mother-infant interaction and nonverbal communication. *Journal of Autism and Developmental Disorders, 41*(3), 287-301.

Young, G. S., Rogers, S., Hutman, T., Rozga, A., Sigman, M., & Ozonoff, S. (2011). Imitation from 12 to 24 months in autism and typical development: A longitudinal Rasch analysis. *Developmental Psychology, 47*(6), 1565-1578.

Hutman, T., Rozga, A., DeLaurentis, A. D., Barnwell, J., Sugar, C. A., & Sigman, M. (2010). Response to distress in infants at risk for autism: a prospective longitudinal study. *Journal of Child Psychology and Psychiatry, 51*(9), 1010-1020.

Christensen, L., Hutman, T., Rozga, A., Young, G.S., Ozonoff, S., Rogers, S.J., Baker, B., & Sigman, M. (2010). Play and developmental outcomes in infant siblings of children with autism. *Journal of Autism and Developmental Disorders, 40*(8), 946-957.

Ozonoff, S., Iosif, A., Baguio, F., Cook, I., Moore-Hill, M., Hutman, T., Rogers, S.J., Rozga, A., Sangha, S., Sigman, M., Stenfield, M.B., & Young, G.S. (2010). A prospective study of the emergence of early behavioral signs of autism. *Journal of the American Academy of Child and Adolescent Psychiatry, 49*(3), 256-266.

Nadig, A., Ozonoff, S., Young, G. S., Rozga, A., Sigman, M., & Rogers, S.J. (2007). A prospective study of response-to-name in infants at risk for autism. *Archives of Pediatrics and Adolescent Medicine, 161*, 378–383.

B2. Full Conference Papers with Proceedings (Refereed)
(*publications with student co-authors)

*Chong, E., Southerland, A., *Kundu, A., Jones, R., Rozga, A., Rehg, J. (2017). Visual 3D Tracking of Child-Adult Social Interactions. To appear in *Proceedings 7th Joint IEEE International Conference on Development and Learning and on Epigenetic Robotics (ICDL-EPIROB 2017),* September 18-21, 2017, Lisbon, Portugal

*Tsatsoulis, D.P., *Kordas, P., *Marshall, M., Forsyth, D., & Rozga, A. (2016). The Static Multimodal Dyadic Behavior Dataset for Engagement Prediction. *Proceedings of the European Conference on Computer Vision* (ECCV 2016), pp.386-399. doi:10.1007/978-3-319-49409-8_31

*Bhattacharya, A., Gelsomini, M., Perez-Fuentes, P., Abowd, G.D., & Rozga, A. (2015). Designing Motion-Based Activities to Engage Students with Autism in Classroom Settings. *Proceedings of the ACM SIGCHI Conference on Interaction Design for Children (IDC)*, pp.69-78, 2015.

*Ye, Z., Li, Y., Liu, Y., Bridges, C., Rozga, A., & Rehg, J. "Detecting bids for eye contact using a wearable camera." To appear in *Proceedings of the 11th IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, 2015.

*Rajagopalan, S.S., Murthy, R., Goecke, R., and Rozga, A. "Play with Me - Measuring a Child's Engagement in a Social Interaction." To appear in *Proceedings of the 11th IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, 2015.

*Han, Y., Rozga, A., Dimitrova, N., Abowd, G., & Stasko, J. "Visual Analysis of Proximal Temporal Relationships of Social and Communicative Behaviors." To appear in *Proceedings of the 17th Eurographics/IEEE Symposium on Visualization (EuroVis)*, 2015.

*Bidwell, J., Rozga, A., Essa, I., & Abowd, G.D. "Measuring child visual attention using markerless head tracking from color and depth sensing cameras." Proceedings of the 16th ACM International Conference on Multimodal Interaction, ICMI, 2014, pp.447-454. ACM.

*Hernandez, J., Riobo, I., Rozga, A., Abowd, G.D., & Picard, R. "Using Electrodermal Activity to Recognize Ease of Engagement in Children during Social Interactions." Proceedings of the 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing, UbiComp, 2014, pp. 307-317. ACM

*Rao, H., Kim, J., Clements, M., Rozga, A., & Messinger D. "Detection of Children's Paralinguistic Events in Interaction with Caregivers." *Proceedings of the 15th Annual Conference of the International Speech Communication Association*, Interspeech, pp. 1229-1233, 2014.

* Ji, Y., Hong, H., Arriaga, R., Rozga, A., Abowd, G.D., Eisenstein, J. "Mining Themes and Interests in the Asperger's and Autism Community." *Proceedings of the Workshop on Computational Linguistics and Clinical Psychology: From Linguistic Signal to Clinical Reality*, ACL, 2014, pp. 97–106.

Kunda, M., Soulières, I., Rozga, A., & Goel, A. K. "Methods for Classifying Errors on the Raven's Standard Progressive Matrices Test." Proceedings of the 35th Annual Meeting of the Cognitive Science Society*, pp. 2796-2801. 2013.

*Presti, L.L., Sclaroff, S., & Rozga, A. "Joint Alignment and Modeling of Correlated Behavior Streams." *Proceedings of International Conference on Computer Vision, Workshop on Decoding Subtle Cues from Social Interactions*, ICCV, 2013, pp.730 - 737.

Rehg, J.M., Abowd, G.D., Rozga, A., Romero, M., Clements, M., Sclaroff, S., Essa, I., Ousley, O., Li, Y., Kim, C., Rao, H., Kim, J., Presti, L., Zhang, J., Lantsman, D., Bidwell, J., & Ye, Z. "Decoding children's social behavior." Proceedings of the 2013 IEEE Conference on Computer Vision and Pattern Recognition*, CVPR, 2013, pp.3414 - 3421.

*Han, Y., Rozga, A., Stasko, J., & Abowd, G.D. "Visual Exploration of Common Behaviors for Developmental Health." *Proceedings of the 2013 Workshop on Visual Analytics in Healthcare*, VAHC, 2013, pp.15-18.

*Ploetz, P., Hammerla, N., Rozga, A., Reavis, A., Call, N., & Abowd, G. "Automatic assessment of problem behavior in individuals with developmental disabilities." *Proceedings of the 2012 ACM Conference on Ubiquitous Computing*, UbiComp, 2012, pp. 391-400. Best Paper Nominee

*Ye, Z., Li, Y., Fathi, A., Han, Y., Rozga, A., Abowd, G.D., Rehg, J. "Detecting eye contact using wearable eye-tracking glasses." *Proceedings of the 2012 ACM Conference on Ubiquitous Computing*, UbiComp, 2012, pp. 699-704.

*Nazneen, F., Boujarwah, F.A., Rozga, A., Abowd, G. D., Arriaga, R. I., Oberleitner, R., & Pharkute, S. "Towards in-home collection of behavior specimens: Within the cultural context of autism in Pakistan." *Proceedings of the 2012 6th International Conference on Pervasive Computing Technologies for Healthcare*, PervasiveHealth, 2012, pp.9-16.

*Gupta, R., *Lee, C., *Bone, D., Rozga, A., Lee, S., Narayanan, S. "Acoustical analysis of engagement behavior in children." Proceedings of Workshop on Child, Computer and Interaction (WOCCI 2012).

*Shin, G., Choi, T., Rozga, A., & Romero, M. "VizKid: A Behavior Capture and Visualization System of Adult-Child Interaction." *Proceedings of the 14th International Conference on Human-Computer Interaction*, HCII, 2011, pp.190-198. **Best paper in Human Interfaces and Management of Information.**

B3. Other refereed material
(*publications with student co-authors)

*Prince, E.B., *Ciptadi, A., Rozga, A., Warlaumont, A., Regh, J.M., Messinger, D. (2017, April) *Using objective measurements of movement and vocalization data to predict attachment behavior.* Poster accepted to the Society for Research in Child Development (SRCD) Biennial Meeting.

*Prince, E., Warlaumaont, A., Oller, K.D., Chow, S., Rozga, A., *Ciptadi, A., Rehg, J., Messinger, D. (accepted). Strange Situation Vocalizations Differ Between Secure and Insecure-Resistant

Infants. Oral presentation at the 2016 International Conference on Infant Studies, May 26-28, New Orleans, LA.

*Edmunds, S., Li, Y., Rozga, A., Ibanez, L., Karp, E., Rehg, J., & Stone, W. (2014). A novel, ecologically valid approach to measure eye-to-eye gaze in young children during naturalistic social interactions. Oral presentation at the *Society for Research in Child Development Special Topic Meeting: Developmental Methodology*, September 11-13, San Diego CA.

Khan, A., Reavis, A., Call, N., Ploetz, T., Rozga, A. "Toward an Automated System for Objective Measurement of Problem Behaviors." Poster presented at the Pediatric Healthcare Innovation: Advancing Technologies to Improve Child Health Conference, Atlanta, GA, April, 2014.

*Nazneen, F., Rozga, A., Smith, C.J., Oberleitner, R.M., Abowd, G.D., & Arriaga, R. "Iterative Design of a System to Support Diagnostic Assessments for Autism Using Home Videos." Poster and demo presented at the International Meeting for Autism Research, IMFAR, May 2014.

*Bidwell, J., Rozga, A., Kim, J.C., Rao, H., Clements, M.A., & Abowd, G.D. "Automated Prediction of a Child's Response to Name from Audio and Video." Poster presented at the International Meeting for Autism Research, IMFAR, May 2014.

*Liu, Y., Li, Y., De la Torre, F., Rozga, A., & Rehg, J. "Real-Time Eye Contact Detection System." Poster and demo presented at the International Meeting for Autism Research, IMFAR, May 2014.

*Rao, H., Kim, J.C., Rozga, A., Clements, M.A. "Paralinguistic Event Detection in Children's Speech." Poster presented at the International Meeting for Autism Research, IMFAR, May 2014.

*Han, Y., Rozga, A., Stasko, J.T., Abowd, G.D. "Using Visual Analytics to Understand Social and Communicative Behaviors" Poster presented at the IEEE Information Visualization Conference, Oct. 2013.

*Rozga, A., Hammerla, N., Ploetz, T., Call, N., Reavis, A. "Use of On-Body Sensing and Computational Analysis to Automatically Detect Problem Behaviors." Poster presented at the International Meeting for Autism Research, IMFAR, May 2012.

*Ciptadi, A., Rozga, A., Rehg, J., Abowd, G.D. "Automatic Retrieval of Videos of Stereotyped and Repetitive Movements." Poster presented at the International Meeting for Autism Research, IMFAR, May 2012.

B4. Submitted Journal Articles (with date of submission)

Rozga, A., Hesse, E., Duschinsky, R., Beckwith, L., Main, M., & Sigman, M. (under review). A short-term longitudinal study of correlates and sequelae of attachment security in autism. Submitted to *Attachment & Human Development* (May, 2017).

*Chong, E., *Chanda, K., *Ye, Z., *Southerland, A., *Ruiz, N., Jones, R., Rozga, A., Rehg, J. (under review). Detecting Gaze Towards Eyes in Natural Social Interactions and Its Use in Child Assessment. Under review in *The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)* (May, 2017).

*Prince, E.B., *Ciptadi, A., Rozga, A., *Martin, K., Rehg, J., & Messinger, D.M. (under review). Objective Measurement of Attachment Behaviors during the Strange Situation Procedure. Submitted to *Infancy* (May, 2017).

Chow, S., *Ou, L., *Ciptadi, A., *Prince, E., Rehg, J.M., Rozga, A., Messinger, D.M. (under review). Representing Sudden Shifts in Intensive Dyadic Interaction Data Using Stochastic Differential Equation (ODE) Model with Regime Switching. Submitted to *Psychometrika* (April 2017).

C. OTHER PUBLICATIONS

Rehg, J., Rozga, A., Abowd, G., & Goodwin, M. "Behavioral Imaging and Autism." IEEE Pervasive, April-June, 2014.

D. PRESENTATIONS

Rozga, A., *Washington, C., *Bridges, C., *Wu, A., *Southerland, A., & de Barbaro, K., (2017). *Attention to Faces, Objects, and Gaze Modulation in Toddlers At-Risk.* Presented at the Biennial Meeting of the Society for Research in Child Development, April 6-8, Austin, TX.

Rozga, A. (November, 2015). *Computational Behavioral Science: Opportunities for Computing to Advance our Understanding of Typical and Atypical Development*. Invited presentation at the Georgia Tech Engineering Psychology Colloquium, November 3, Atlanta, GA.

Rozga, A. (October, 2015). *Computational Behavioral Science: Opportunities for Computing to Advance our Understanding of Typical and Atypical Development*. Invited presentation at the Georgia State University Developmental Psychology Colloquium, October 14, Atlanta, GA.

Rozga, A. (October, 2015). *An Ecological Approach to Technology for Developmental Milestone Tracking*. Presentation to the Georgia Early Education Alliance for Ready Students (GEEARS) meeting on "Early Brain Development Innovation & Research," Thursday September 17th, Atlanta, GA.

Rozga, A. (July, 2015). *Opportunities for Computing to Improve Measurement of Behavior in Autism.* Invited presentation at the Marcus Autism Center's 4th Annual Summer Symposium on Autism Spectrum Disorders.

Rozga, A. (July, 2014). *A novel telemedicine platform for remote diagnosis of ASD*. Invited seminar presentation to the Prevention Research Branch of National Center on Birth Defects and Developmental Disabilities at Centers for Disease Control and Prevention, July 22, 2014, Atlanta, GA.

Rozga, A. (2014). *The "B" in CBS (Computational Behavioral Science): a View from the Trenches*. Georgia Tech GVU Center Brown Bag seminar, April 24, Atlanta, GA.

Rozga, A. (2013). *Modeling developmental trajectories in autism: Opportunities for Computational Behavioral Science*. Invited address at the First International Symposium on Computational Behavioral Science, September 26-28, Shonan Village, Japan.

Abowd, G.A., Rozga, A., Rehg, J.M., and Clements, M. (2013). *Using Computational Tools to Measure Social Communication and Engagement in Young Children.* Presented at the International Meeting for Autism Research, May 1-3, San Sebastian, Spain.

Hutman, T., Gomez, L., Gillespie-Lynch, K., Rozga, A., Sigman, M., & Johnson, S.P. (2011). *Joint attention predicts adaptive behavior development in infants with and without ASD.* International Meeting for Autism Research, May 12–14, San Diego, CA.

Ozonoff, S., Young, G. S., Human, T., Sigman, M., Rogers, S., Hill, M., Steinfeld, M., Rozga, A. (2011). *Stability of ASD Classification From 18 to 36 Months in Infants at Risk for ASD*. Society for Research in Child Development, March 31-April 2, 2011, Montreal, Canada.

Rozga, A. (2008). *Screening for autism spectrum disorders in primary care settings*. Invited address at the Annual Spring Meeting of the Georgia Chapter of Pediatrics, June 1–3, Amelia Island, FL.

Rozga, A., Young, G., Sigman, M. Ozonoff, S., & Rogers, S. (2008). *Early risk for autism: The contribution of measures of mother-infant interaction, nonverbal communication, and language*. International Meeting for Autism Research, May 15–17, London, UK.

Ozonoff, S., Rogers, S., Sigman, M., Young, G. S., & Rozga, A. (2005*). Autism and the broader phenotype in baby siblings of children with autism*. Society for Research in Child Development, April 7–10, Atlanta, GA.

E. **GRANTS AND CONTRACTS**

E1. AS PRINCIPAL INVESTIGATOR
E2. AS CO-PRINCIPAL INVESTIGATOR

Title: Objective Measurement of Challenging Behaviors in Individuals with ASD
Agency/Company: NIH
Total dollar amount: $500,000
Role: PI at Georgia Tech
Collaborators: Thomas Ploetz (co-I), Nathan Call (PI), Mindy Scheithauer (co-I)
Period of Contract: 9/23/2016 – 9/22/2018

Title: Objective Measures of Social Interactions via Wearable Cameras
Agency/Company: Simons Foundation
Total dollar amount: $500,000
Role: co-PI at Georgia Tech
Collaborators: Jim Rehg (PI), Rebecca Jones (PI at Weill Cornell), Catherine Lord (co-PI at Weill Cornell)
Period of Contract: 9/1/2015 – 8/31/2017

SUBMITTED/PENDING

Title: Data-driven multidimensional modeling of nonverbal communication in typical and atypical development
Agency/Company: National Institutes of Health
Total dollar amount: $1,864,609
Role: co-I
Collaborators: Jim Rehg (PI), Rebecca Jones (co-I), Catherine Lord (co-I)
Period of Contract: 9/1/2017 – 8/31/2012

Title: Data-driven multidimensional modeling of nonverbal communication in ASD
Agency/Company: National Institutes of Health
Total dollar amount: $825,000
Role: co-I
Collaborators: Jim Rehg (PI), Rebecca Jones (co-I), Catherine Lord (co-I)
Period of Contract: 9/1/2017 – 8/31/2012

COMPLETED

Title: Expeditions in Computing Grant: Computational Behavioral Science: Modeling, Analysis, and Visualization of Social and Communicative Behavior
Agency/Company: National Science Foundation
Total Dollar Amount: $9,999,246
Role: co-PI
GT Collaborators: James Rehg (PI), Gregory Abowd (co-PI), Mark Clements (Co-PI)
Period of Contract: 07/15/10 – 06/14/15

Title: Intelligent Data Capture and Assessment Technology for Developmental Disabilities
Agency/Company: National Institutes of Health (SBIR)
Total Dollar Amount: $ 2,176,782
Role: PI (Georgia Tech)
Collaborators: Ron Oberleitner (PI, Behavior Imaging Solutions Inc.), Rosa Arriaga (co-PI, GT), Chris Smith (PI, Southwest Autism Research & Resource Center)
Period of Contract: 8/17/2012 – 8/17/2015
Georgia Tech share: $199,227

Title: Exploring Movement-Based Games to Encourage Social Behaviors in Children with Autism
Agency/Company: Georgia Tech GVU Center/Institute for People and Technology (Seed Grant)
Total Dollar Amount: $24,945
Role: PI
Collaborators: Brian Magerko (co-PI); Ashley Cheeck (co-PI); Victoria McBride (co-PI)
Period of Contract: 8/18/2014 – 5/2/2015
Georgia Tech share: $24,945

Title: Toward new assessments of problem behaviors to increase treatment effectiveness
Agency/Company: Georgia Tech Institute for People and Technology/Children's Healthcare of Atlanta (Seed Grant)
Total Dollar Amount: $31,343
Role: PI
Collaborators: Nathan Call (co-PI, Emory/CHOA/Marcus Autism Center)
Period of Contract: 1/1/2013 – 6/1/2015
Georgia Tech share: $12,312

Title: Real Time Objective Measurement and Reflection of Social Behaviors
Agency/Company: Google
Total Dollar Amount: $22,500 plus seven Google glass devices
Role: co-PI

Collaborators: Jim Rehg (PI)
Period of Contract: 5/1/2014 – 5/1/2015
Georgia Tech share: total budget

Title: REU Supplement to Award #1029679
Agency/Company: National Science Foundation
Total Dollar Amount: $19,200
Role: PI
Collaborators: James Rehg (co-PI), Gregory Abowd (co-PI), Mark Clements (Co-PI)
Period of Contract: 5/23/2013 – 5/22/2014
Georgia Tech share: total budget

Title: REU Supplement to Award #1029679
Agency/Company: National Science Foundation
Total Dollar Amount: $29,160
Role: PI
Collaborators: James Rehg (co-PI), Gregory Abowd (co-PI), Mark Clements (Co-PI)
Period of Contract: 5/7/2012 – 5/6/2013
Georgia Tech share: total budget

Title: Non-Invasive Gaze Estimation
Agency/Company: Simons Foundation
Total Dollar Amount: $140,347
Role: co-PI
Collaborators: James Rehg (PI)
Period of Contract: 7/1/2011 – 1/1/2013
Georgia Tech share: total budget

Title: REU Supplement to Award #1029679
Agency/Company: National Science Foundation
Total Dollar Amount: $24,000
Role: PI
Collaborators: James Rehg (co-PI), Gregory Abowd (co-PI), Mark Clements (Co-PI)
Period of Contract: 4/29/2011 – 4/28/2012
Georgia Tech share: total budget

E3. AS SENIOR PERSONNEL OR CONTRIBUTOR

Title: First Person Visual Analytics
Agency/Company: National Science Foundation/I-Corps
Total Dollar Amount: $50,000
Role: Entrepreneurial Lead
Collaborators: James Rehg (PI), Yin Li (co-EL), Ernesto Escobar (Mentor).
Period of Contract: 1/01/2016 – 6/01/2016
Georgia Tech share: $50,000

E4. PROPOSALS SUBMITTED BUT NOT FUNDED (last two years)

Title: Collaborative Research: Objective measurement of patterns of attachment and exploration
Agency/Company: National Science Foundation
Total Dollar Amount: $314,205
Role: co-PI
Collaborators: James M. Rehg (PI), Daniel Messinger (PI)
Period of Contract: 7/1/2015 – 7/31/2018

Title: Collaborative Research: Computational Modeling of Healthy and Disturbed Development
Agency/Company: National Institutes of Health
Total Dollar Amount: $6,308,587
Role: co-PI
Collaborators: James M. Rehg (PI), Daniel Messinger (PI),
Period of Contract: 08/01/2015 - 07/31/2020

Title: Betty's Mind: A Theory of Mind and Social Reasoning Intervention for Adolescents with Autism Spectrum Disorders Based on a Learning by Teaching Approach
Agency/Company: UD Department of Education/IES
Total Dollar Amount: $1,499,972
Role: co-PI
Collaborators: Maithilee Kunda (PI), Ashok Goel (co-PI); Gautam Biswas (co-PI)
Period of Contract: 2015-2018

Title: CompCog: Computational Mechanisms for the Development of Nonverbal Intelligence
Agency/Company: National Science Foundation/DLS
Total Dollar Amount: $529,662
Role: Senior Personnel
Collaborators: Maithilee Kunda (PI), Ashok Goel (co-PI)
Period of Contract: 2015-2018

F. OTHER SCHOLARLY ACCOMPLISHMENTS

G. SOCIETAL AND POLICY IMPACTS

My research lies in the area of autism, at the interdisciplinary boundary between developmental psychology and computing. I start with questions of how the behavior of an individual emerges and transforms over time. To find answers, I apply computationally driven measurement and modeling. This work is leading to novel ways of capturing and quantifying complex human behaviors, as well as developing new understandings of these behaviors, both among typically developing individuals and those with autism. As such, my work fits squarely within the emerging discipline of computational behavioral science (CBS).

Though at a relatively early stage, the impact of this work can already be seen through a growing influence in academia, commercial ventures, and clinical practice. In academia, my psychology collaborators at Georgia State, University of Miami, and Washington University are starting to adopt the kinds of technologies I have helped develop to shape their own research agendas. In the commercial sector, I am helping to drive the transfer and evaluation of technology to support remote diagnosis of autism in a company (Behavior Imaging Solutions). In clinical practice, I am

working closely with clinicians at the Marcus Autism Center to evaluate the systems for automatically measuring severe problem behaviors and eye contact that I developed in the context of their ongoing clinical care.

V.   TEACHING

A.   COURSES TAUGHT

Semester, Year	Course Number	Course Title	Number of Students
Spring, 2011	CS4803/8803*	Introduction to Behavior Imaging	13

*Co-taught with Jim Rehg

B.   INDIVIDUAL STUDENT GUIDANCE

B1. Postdoctoral Fellows

None

B2. Ph.D. Students

Name: Jonathan Bidwell, CS Ph.D., 2nd year
Relationship: co-advisor
Semester Advisement began: Fall 2013
Advisement ended Winter 2015

B3. M.S. Students (Indicate thesis option for each student)

Name: Arpita Bhattacharya, MS HCI, thesis option
Relationship: Advisor
Semester advisement began: Fall 2013
Status: placed in PhD program (UW)

Name: Amrita Gupta, MS CSE, thesis option
Relationship: co-supervising
Semester Supervision began: Fall 2013
Status: placed in PhD program (GT)

Name: Zhefan Ye, MS CS, project option
Relationship: co-supervising
Semester Supervision began: Fall 2013
Status: placed in PhD program (U Michigan)

Name: Andrew Harbor, MS HCI, thesis option
Relationship: co-advisor
Title of thesis: Interactive Digital Storytelling for Children with Autism
Date of Graduation: December 2012

Name: Darryl D. Prince, MS HCI, project option
Relationship: co-advisor
Title of project: Operational Assessment and Usability Evaluation of BI Care and BI Capture

Date of graduation: April 2010

B4. Undergraduate Students

Post-baccalaureate students

Audrey Southerland (B.A. in Psychology, Georgia Tech), August 2012 – present
Chanel Bridges (B.A. in Psychology, University of Michigan), August 2011 – present
Chelsea Crow (B.A. in Psychology, Clayton State University), July 2012 – December 2014
Zachary Jacokes (B.A. in Psychology, Emory University), July 2013 – December 2014

Undergraduate students

Lizzie Stubbs (Psychology, Georgia Tech), August 2015 - present
Sarah Nay (Psychology, Georgia Tech), June 2015 - present
Nathan Copp (Psychology, Georgia Tech), August 2014 - present
Paula Barranachea (Psychology, Georgia Tech), August 2014 – May 2015
Allison Wu (Psychology, Georgia Tech), August 2012 – August 2015
Hamid Habib (Psychology, Georgia Tech), August 2012 – May 2015
Christina Pugh (Psychology, Georgia Tech), August 2012 – February 2015
Rachael Ruskin (Psychology, Georgia Tech), January 2013 – present; placed in Masters program
       in Clinical Mental Health Counseling at Auburn
Deborah Ziskend (Psychology, Georgia Tech), January 2012 – May 2013; placed at Center for
       Discovery, New York
Zhefan Ye (Computer Science, Georgia Tech), January 2012 – May 2013; placed in MS CS
       program at Georgia Tech
Anita Hasni (Psychology, Georgia Tech), August 2011 – May 2012; placed in Ph.D. program in
       Developmental Psychology at Georgia State University
Fatima Dhanani (Psychology, Georgia Tech), April 2012 – August 2012
Anne Yoder (Psychology, Boston University), Summer 2012; placed at the Center for Discovery,
       New York
Connelly Crowe (Psychology, Georgia Tech), October 2010 – December 2011

B5. Service on thesis or dissertation committees

Name: Hrishikesh Rao, ECE Ph.D.
Thesis title: *Paralinguistic Event Detection in Children's Speech*
Status: successfully defended thesis October 2015

Name: Arri Ciptadi, CS Ph.D.
Thesis title: Interactive Tracking And Action Retrieval To Support Human Behavior Analysis
Status: passed proposal June 2015

Name: Jonathan Kim, ECE Ph.D.
Thesis title: *Classification of Affect Using Novel Voice and Visual Features*
Status: successfully defended thesis October 2014

Name: Nazneen, CS Ph.D.
Thesis title: *Supporting In-Home Collection and Sharing of Behavior Specimens for Diagnostic Assessment of Children with Autism*
Status: successfully defended thesis April 2014

B6. Mentorship visiting scholars

Shyam Rajagopolan, Ph.D. candidate at University of Canberra, Australia
Visit: August 2015 – December 2015

Patricia Perez-Fuster, Ph.D. candidate at University of Valencia, Valencia, Spain
Visit: August 15 – December 15, 2014

Zhe Liu, BS candidate at Tsinghua University, Beijing, China
Visit: July 1 – September 15, 2014

Mirko Gelsomini, M.S. candidate at Politecnico di Milano, Italy
Visit: August – December 2013

C. OTHER TEACHING ACTIVITIES

Prepared and delivered several lectures on autism and developmental psychology for the Computational Behavior Science Summer Institute, in the summer of 2012. This was a two-week summer school, convened at the Center for Discovery in New York, designed to introduce computing researchers engaged in our Expeditions in Computing project to the opportunities of developing tools to support the quantitative and objective measurement of human behavior. The goal of my lectures was to introduce students to important topics in the study of autism and to research methods used by psychologists to study this condition.

VI. SERVICE

A. PROFESSIONAL CONTRIBUTIONS

2014	Leader, Developmental Considerations Working Group, INSAR Special Interest Group on Minimally Verbal Individuals with Autism
2014	Member, Program Committee, International Working Conference on Advanced Visual Interfaces
2014	co-organizer, 2014 CHI workshop on Supporting Children with Complex Communication Needs
2013, 2012	Reviewer, IPaT-CHOA Seed Grant Program
2013, 2012	National Science Foundation, Research Project Reviewer
2012	Co-Organizer, NSF Expeditions *Open Workshop on Computational Methods for Quantifying Social and Communicative Behavior in Autism*. USC, Virterbi School of Engineering, September 28th.
2012	Co-Organizer, summer school for Expeditions in Computing Grant: Computational Behavioral Science: Modeling, Analysis, and Visualization of Social and Communicative Behavior, Center for Discovery, NY, June 5th-8th.
2012 – 2014	Founding member & leader, Research Collaboration Special Interest Group, Atlanta Autism Consortium
2010 – present	Editorial Board, Focus on Autism and Developmental Disabilities
2010 – present	Director, Georgia Tech Child Study Lab
2010 – present	Ad hoc reviewer for CHI, SIGCHI, Ubicomp, IEEE Pervasive Computing, HRI, Journal of Personal and Ubiquitous Computing

2008 – present   Ad hoc reviewer for Journal of Autism and Developmental Disorders, Autism, Autism Research, Journal of Child Psychology and Psychiatry, Developmental Psychology, Developmental Science
2008 – present   Member, Atlanta Autism Consortium
2001 – present   Member, Society for Research in Child Development, International Society for Autism Research

B. PUBLIC SERVICE

In May of 2013 and May 2015, I organized a visit to Georgia Tech for trainees in the Georgia Leadership Education Neurodevelopmental and related Disabilities (GaLEND) Program at GSU. The trainees listened to a series of presentations on relevant ongoing work at GT pertaining to the application of technology to developmental disabilities, followed by a discussion.

In May of 2012 and 2013, I helped organize the Atlanta Autism Consortium Annual Research Showcase at Georgia Tech. This event, which includes several invited talks along with an extended poster session, serves two key functions. First, it provides an opportunity for local autism researchers, especially students and junior researchers, to showcase their research. Second, because it is open and advertised to the general public, it enables various autism stakeholders in the Atlanta area - individuals with autism and their families, educators, clinicians - to hear about relevant work being conducted by members of the local research community.

C. COMMUNITY SERVICE

D. INSTITUTE CONTRIBUTIONS

2015 – present   Chair and School of Interactive Computing representative, Research Faculty Advisory Council, College of Computing
2013 – present   School of Interactive Computing representative to Faculty Assembly
2010 – 2014   Representative to the School Chair Advisory Committee (SAC)