

POORNA TALKAD SUKUMAR

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RESEARCH INTERESTS

Human-Computer Interaction (HCI); Information Visualization; Computer-Supported Cooperative Work (CSCW); Personal Data Visualization; Cognitive Biases in Visualizations; Empirical Studies; Future of Work

EDUCATION

University of Notre Dame

Indiana, USA

PH.D. COMPUTER SCIENCE AND ENGINEERING

Aug 2021

- *Dissertation*: Contextual and Qualitative Approaches for Visualization Design
- Advisors: Dr. Aaron Striegel and Dr. Ronald Metoyer
- GPA: 4.0/4.0

Lancaster University

Lancashire, UK

M.SC. MOBILE AND UBIQUITOUS COMPUTING

2010

- *Thesis*: Enhanced Stance Phase Detection and Extended Kalman Filtering for Strapdown Pedestrian Dead Reckoning
- Thesis Supervisor: Dr. Mike Hazas

Dayananda Sagar College of Engineering

Bengaluru, India

B.E. COMPUTER SCIENCE AND ENGINEERING

2008

PROFESSIONAL APPOINTMENTS

Mary H. '80 and Richard K. '80 Templeton Assistant Professor (Tenure-Track)

Schenectady, NY, USA

Department of Computer Science, Union College

Sept 2021 - Present

Graduate Research Assistant

Indiana, USA

Department of Computer Science and Engineering, University of Notre Dame

2016 - 2021

Graduate Teaching Assistant

Indiana, USA

Department of Computer Science and Engineering, University of Notre Dame

2015 - 2016, 2018

Project Associate

Bengaluru, India

Department of Computer Science and Automation, Indian Institute of Science

2012 - 2015

Software Developer

Bristol, UK

Matter 2 Media

2011 - 2012

Research Assistant

Lancashire, UK

Computing Department, Lancaster University

2010 - 2011

PUBLICATIONS

REFEREED JOURNAL ARTICLES

Reinholz, D., Ridgway, S., **Talkad Sukumar, P.**, and Shah, N. 2022. Visualizing Inequity: How Data Visualizations Can Support Sensemaking About Racial Inequity (*Under Review, CBE—Life Sciences Education Journal*).

Breideband, T., Martinez, G., **Talkad Sukumar, P.**, Caruso, M., D'Mello, S., Striegel, A.D., and Mark, G. 2022. Collaborating from Home during COVID-19: Examining Individual Sleep and Sleep Alignment in Teams. *CSCW, 2022 (To appear)*.

- Breideband, T., **Talkad Sukumar, P.**, Mark, G., Caruso, M., D’Mello, S., and Striegel, A.D. 2022. Home-Life and Work Rhythm Diversity in Distributed Teamwork: A Study with Information Workers during the COVID-19 Pandemic. *CSCW, 2022 (To appear)*.
- Talkad Sukumar, P.**, Metoyer, R., He, S. 2018. Making a Pecan Pie: Understanding and Supporting The Holistic Review Process in Admissions. *Proceedings of the ACM on Human-Computer Interaction, 2(CSCW), 1-22*. [25.6% Acceptance Rate].
- Fischer, C., **Talkad Sukumar, P.**, Hazas, M. 2012. Tutorial: implementation of a pedestrian tracker using foot-mounted inertial sensors. *IEEE Pervasive Computing, 12(2), 17-27*.

REFEREED CONFERENCE AND WORKSHOP ARTICLES

- Talkad Sukumar, P.**, Dey, A., Mark, G., Metoyer, R., and Striegel, A.D. 2022. Triggers and Barriers to Insight Generation on a Personal Visualization Interface. *Graphics Interface, 2022 (To appear)*.
- Talkad Sukumar, P.**, Martinez, G.J., Grover, T., Mark, G., D’Mello, S.K., Chawla, N.V., Mattingly, S.M. and Striegel, A.D. 2020. Characterizing Exploratory Behaviors on a Personal Visualization Interface Using Interaction Logs. *EuroVis 2020 - Short Papers*. [45.7% Acceptance Rate]
- Talkad Sukumar, P.** and Metoyer, R. 2019. Mobile Devices in Programming Contexts: A Review of the Design Space and Processes. *In Proceedings of the 2019 on Designing Interactive Systems Conference (pp. 1109-1122)*. [25% Acceptance Rate]
- Zhi, Q., Lin, S., **Talkad Sukumar, P.**, and Metoyer, R. 2019 GameViews: Understanding and Supporting Data-driven Sports Storytelling. *In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (pp. 1-13)*. [23.8% Acceptance Rate, **Best Paper Honorable Mention Award (top 5%)**].
- Talkad Sukumar, P.**, Liu, A., and Metoyer, R. 2018. Replicating User-defined Gestures for Text Editing. *In Proceedings of the 2018 ACM International Conference on Interactive Surfaces and Spaces (pp. 97-106)*. [26.7% Acceptance Rate]
- Talkad Sukumar, P.** and Metoyer, R. 2018. Towards Designing Unbiased Replication Studies in Information Visualization. *In 2018 IEEE Evaluation and Beyond-Methodological Approaches for Visualization (BELIV) (pp. 93-101)*.
- Talkad Sukumar, P.**, He, S., and Metoyer, R. 2017. Holistic Reviews in Admissions: Reviewer Biases and Visualization Strategies to Mitigate Them. *In DECISIVE: Workshop on Dealing with Cognitive Biases in Visualizations. IEEE VIS*.

BOOK CHAPTER AND THESES

- Talkad Sukumar, P.** 2021. Contextual and Qualitative Approaches for Visualization Design. *Doctoral Dissertation, University of Notre Dame*.
- Talkad Sukumar, P.** and Metoyer, R. 2018. A Visualization Approach to Addressing Reviewer Bias in Holistic College Admissions. *In Cognitive Biases in Visualizations (pp. 161-175). Springer, Cham*.
- Talkad Sukumar, P.** 2010. Enhanced Stance Phase Detection and Extended Kalman Filtering for Strapdown Pedestrian Dead Reckoning. *Master’s Thesis, Lancaster University, UK*

PANEL, CASE STUDY, POSTER

- Talkad Sukumar, P.**, Breideband, T., Martinez, G., Caruso, M., Rose, S., Steputis, C., D’Mello, S., Mark, G., and Striegel, A. 2021. Designing an Interactive Visualization System for Monitoring Participant Compliance in a Large-scale, Longitudinal Study. *In Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (pp. 1-8)*. [21% Acceptance Rate]
- Talkad Sukumar, P.**, Avellino, I., Remy, C., DeVito, M. A., Dillahunt, T. R., McGrenere, J., and Wilson, M. L. 2020. Transparency in Qualitative Research: Increasing Fairness in the CHI Review Process. *In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (pp. 1-6)*. [28.6% Acceptance Rate].
- Talkad Sukumar, P.**, Reinholz, D., Shah, N., and Striegel, A. 2020. Visualizing Participatory Inequities in Classroom Data. *IEEE VIS 2020 Electronic Conference Proceedings [Poster]*.

AWARDS AND RECOGNITIONS

- 2019-2022 **Special Recognition for Outstanding Reviews**, *CHI'22, CHI'20, and CSCW'19 Papers*
- 2020 **Participant**, *Doctoral Colloquium, IEEE VIS conference*
- 2019 **Outstanding Graduate TA Award**, *Department of Computer Science and Engineering, University of Notre Dame*
- Best Paper Honorable Mention Award**, “**GameViews: Understanding and Supporting Data-driven Sports Storytelling**”, *ACM CHI conference*
- 2017 **Joseph F. Downes Memorial Award for Conference Travel**, University of Notre Dame \$ 1,500
- CRA-W Grad Cohort Scholarship**, Computing Research Association (CRA) \$ 1,500

PRESENTATIONS

INVITED TALK

Invited talk (virtual): At **Union College**, Schenectady, NY. May 2021. “Towards a Realistic Understanding Of Personal Visualization.”

CONFERENCE AND WORKSHOP PAPER PRESENTATIONS

- EuroVis conference (virtual)**. May 2020. Presented paper, “Characterizing Exploratory Behaviors on a Personal Visualization Interface Using Interaction Logs.”
- Designing Interactive Systems (DIS) conference**, San Diego, USA. June 2019. Presented paper, “Mobile Devices in Programming Contexts: A Review of the Design Space and Processes”
- Interactive Surfaces and Spaces (ISS) conference**, Tokyo, Japan. Nov 2018. Presented paper “Replicating User-defined Gestures for Text Editing”
- CSCW conference**, Jersey City, USA. Nov 2018. Presented paper “Making a Pecan Pie: Understanding and Supporting The Holistic Review Process in Admissions”
- Evaluation and Beyond-Methodological Approaches for Visualization (BELIV) Workshop, IEEE VIS**, Berlin, Germany. Oct 2018. Presented mini-tutorial “Towards Designing Unbiased Replication Studies in Information Visualization.”
- Dealing with Cognitive Biases in Visualisations (DECISIVE) Workshop, IEEE VIS**, Phoenix, Arizona. Oct 2017. Presented paper “Holistic Reviews in Admissions: Reviewer Biases and Visualization Strategies to Mitigate them.”

TEACHING EXPERIENCE

Union College

ASSISTANT PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE

Sept 2021 - Present

- **CSC 105 - Game Development: Introduction to Computer Science** [F21] [W22]
- **CSC 250 - Algorithm Design and Analysis** [S22]
- **CSC 380 - User Interfaces** [S22]

University of Notre Dame

GRADUATE TEACHING ASSISTANT, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2015-2016, 2018

- **Human-Computer Interaction (HCI)** [S16] [S18]
Instructor: Prof. Ronald Metoyer
- **Data Mining** [F15]
Instructor: Prof. Nitesh Chawla

SERVICE

- 2019-2022 **Reviewer**, ACM CHI 2019–2022, ACM CSCW 2019-2022, IEEE VIS 2021, ACM MobileHCI 2022, IEEE TVCG 2015–2016, ACM UIST 2021.
- 2022 **Member of Faculty Search Committee (Visiting Assistant Professor)**, Union College
- 2022 **Member of Union Coalition for Inclusiveness and Diversity (UCID)**, Union College
- 2019 **Session Chair**, ACM DIS and CHI conferences
- 2019 - 2020 **Graduate Student Union representative**, Dept of Computer Science and Engineering, University of Notre Dame

REFERENCES

Dr. Aaron Striegel

PROFESSOR, DEPT OF COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF NOTRE DAME

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Dr. Ronald Metoyer

PROFESSOR, DEPT OF COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF NOTRE DAME

✉ rmetoyer@nd.edu

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Dr. Gloria Mark

PROFESSOR, DEPT OF INFORMATICS, UNIVERSITY OF CALIFORNIA, IRVINE

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