50 S Campus Dr, Rm 3122
Salt Lack City UT 84112
+1 (801) 581 4321
swaroopjoshi@ieee.org
swaroop.netlify.app

Swaroop Joshi

Education

2017 **Ph.D.**, *Computer Science & Engineering, The Ohio State University*.

2016 **M.S.**, *Computer Science & Engineering, The Ohio State University*.

2010 **M.Tech.**, *Computer Science & Engineering, Indian Institute of Technology Bombay*, Mumbai, India.

2005 **B.E.**, *Computer Engineering, National Institute of Technology Karnataka*, Surathkal, India.

Professional Appointments

2019–present **Assistant Professor (Lecturer)**, School of Computing, University of Utah.

2017–2019 **Senior Lecturer**, Computer Science & Engineering, The Ohio State University.

2010–2011 **Senior Project Engineer**, GCC Resource Center, Indian Institute of Technology Bombay.

2005–2006 **Software Engineer**, SoftJin Technologies Pvt. Ltd., Bangalore India.

Publications

Chapters in Edited Volumes

[1] O. Ahlqvist, S. Joshi, R. Benkar, K. Vatev, R. Ramnath, A. Heckler, and N. Soundarajan. "Defining a Geogame Genre Using Core Concepts of Games, Play, and Geographic Information and Thinking". In: *Geogames and Geoplay: Game-based Approaches to the Analysis of Geo-Information*. Ed. by O. Ahlqvist and C. Schlieder. Springer International Publishing, 2018, pp. 19–35.

Peer Reviewed Conferences

[2] S. Joshi, N. Soundarajan, and J. Morris. "Innovative Approach to Online Argumentation in Computing and Engineering Courses". In: *125th ASEE Annual Conference and Exposition*. American Society for Engineering Education, 2018.

[3] N. Soundarajan and S. Joshi. "Innovative Approach to Online Argumentation and Models for Structuring the Arguments". In: *2018 IEEE Frontiers in*

Education Conference (FIE) (FIE 2018). San Jose, USA, Oct. 2018.

[4] S. Joshi and N. Soundarajan. "Using Anonymity and Rounds-Based Structure for Effective Online Discussions in STEM Courses". In: *124th ASEE Annual Conference & Exposition Proceedings*. American Society for Engineering Education, 2017.

[5] S. Joshi and N. Soundarajan. "CONSIDER: A Novel Approach to Conflict-Driven Collaborative Learning in Engineering Courses". In: *2016 ASEE Annual Conference & Exposition Proceedings*. American Society for Engineering Education, June 2016.

[6] S. Joshi and N. Soundarajan. "Enabling Deep Conceptual Learning in Computing Courses through Conflict-based Collaborative Learning". In: *2016 IEEE Frontiers in Education Conference (FIE) (FIE 2016)*. Erie, USA, Oct. 2016.

[7] S. Joshi and N. Soundarajan. "Exploring conflict-based collaborative learning in engineering courses". In: *ASEE North Central Sectional Conference Proceedings*. American Society for Engineering Education, Mar. 2016.

[8] S. Joshi, N. Soundarajan, and R. Ramnath. "Conflict-Driven Cooperative-Learning in Computing Courses (Abstract Only)". In: *Proceedings of the 46th ACM Technical Symposium on Computer Science Education - SIGCSE '15*. Association for Computing Machinery (ACM), Mar. 2015.

[9] N. Soundarajan, S. Joshi, and R. Ramnath. "Collaborative and Cooperative-Learning in Software Engineering Courses". In: *2015 IEEE/ACM 37th IEEE International Conference on Software Engineering*. Institute of Electrical & Electronics Engineers (IEEE), May 2015.

[10] N. Soundarajan, S. Joshi, and R. Ramnath. "Work-in-Progress: Conflict-Driven Cooperative Learning in Engineering Courses". In: *2015 ASEE Annual Conference and Exposition Proceedings*. American Society for Engineering Education, June 2015.

[11] N. Soundarajan, S. Joshi, and R. Ramnath. "Work-in-progress: A novel approach to collaborative learning in the flipped classroom". In: *121st ASEE Annual Conference and Exposition*. American Society for Engineering Education, June 2014.

Dissertations

[12] S. R. Joshi. "CONSIDER: A Novel, Online Approach to Conflict-Driven Collaborative-Learning". PhD thesis. The Ohio State University, Aug. 2017.

[13] S. Joshi. "Extending the Generic Data-Flow Analyzer (gdfa) in GCC". Master's Project Report. Indian Institute of Technology Bombay, June 2010.

Awards and Honors

Lecturer Teaching Development Grant, *Spring 2017*.
University Center for Advancement in Teaching, The Ohio State University

Best Student Paper Award, *2016*.
American Society for Engineering Education, North Central Section

Invited Talks

2019 **Effectively Teaching a Principles of Programming Languages Course**, *Indo-Universal Collaboration for Engineering Education*, Feb.–Apr. 2019.
A 10-week web course for 50 CS faculty from various engineering colleges in India

2018 **Cooperative and Collaborative Learning in Engineering Classrooms**, *Indo-Universal Collaboration for Engineering Education Webinar*, Jul. 2018.
Attended by over 100 engineering faculty across India

Research Experience

2013–2017 **CONSIDER**, *Ph.D. Dissertation Research*, OSU.
A computer-supported collaborative learning project that leverages socio-cognitive conflict and exploits the affordances of web technologies to provide structured, anonymous, online discussion to enhance learning of concepts in college level engineering courses.

2014–2016 **GeoGame**, *Graduate Research Associate*, OSU.
A game-based learning project where college students of world regional geography interact with each other by role-playing as farmers in developing countries.

2011–2012 **Testing PolyOpt/Fortran Loop Optimization Framework**, *Graduate Research Associate*, OSU.

2009–2011 **Extending the Generic Data-Flow Analyzer (gdfa) in GCC**, *M.Tech. Project*, IIT Bombay.

Teaching Experience

School of Computing, University of Utah

CS 4000, *Senior Capstone Design (Spring 2020)*.

CS 2420, *Mobile App Programming (Spring 2020)*.

CS 2420, *Introduction to Algorithms and Data Structures (Fall 2019)*.

CS 4500, *Senior Capstone Design (Fall 2019)*.

Computer Science & Engineering, OSU

CSE 3341, *Principles of Programming Languages (Spring and Fall 2018; Spring 2019).*

CSE 2231, *Software II: Software Development and Design (Fall 2018).*

CSE 2221, *Software I: Components (Spring, Summer, Fall 2017; Spring 2018).*

CSE 1223, *Introduction to Computer Programming In Java (Summer 2017).*

CSE 2321, *Data Structures Using Java (Fall 2016).*

CSE 5236, *Mobile App Development (Spring and Summer 2014).*

CSE 4252, *C++ Programming (Summer 2013).*

CSE 1222, *Introduction to Computer Programming in C++ for Engineers and Scientists (Spring 2013).*

Service to Profession

Associate Editor, Journal of Engineering Education Transformations.

Secretary-Treasurer, Computers in Education Division, ASEE.
2018–20

Journal Reviewer.

Journal of Engineering Education Transformations

ASEE Computers in Education

Conference paper or poster Reviewer.

ACM SIGCSE Technical Symposium on Computer Science Education, 2019, 2018

ASEE Annual Conference & Exposition, 2019, 2018, 2017, 2016

IEEE Frontiers in Education (FIE), 2018, 2017, 2016

IEEE Teaching, Assessment and Learning for Engineering (TALE), 2018

Ph.D. Thesis Examiner.

Karunakara Rai B., "Reasoning Methodology for Estimating the Degradation in the Performance of a Real-Time Fault Tolerant System.", Visvesvaraya Technological University (VTU), Karnataka, India, 2019

Teaching Areas

Programming Languages

Mobile App Development

Compiler Construction and Optimization

CS1/CS2

Professional Memberships

IEEE: Education Society, Computer Society

ACM: Special Interest Group on Computer Science Education (SIGCSE)

American Society for Engineering Education (ASEE): Educational Research and Methods division, Electrical and Computer Engineering division