

Swaroop Joshi

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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

- 2017–present **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–present **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

Computer Science & Engineering, OSU (Solo Instructor)

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.

Journal Reviewer, Journal of Engineering Education Transformations.

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

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