# Prajish Prasad

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## Research Interests

Computing Education Research, Learning Environment Design, Learning Analytics

## Education

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| On Going | PhD in Educational Technology, **IIT Bombay**, Mumbai<br>Thesis: "Developing Software Design Diagram Evaluation Skills in Students using a Technology-enhanced Learning Environment"<br>Advisor: Prof. Sridhar Iyer<br>GPA: 9.52/10 |
| July 2012 | Master of Technology in Computer Science, **IIT Bombay**, Mumbai<br>Thesis: "Formalization and Model Checking of Live Sequence Charts"<br>Advisor: Prof. S Krishna<br>GPA: 8.16/10 |
| July 2009 | Bachelor of Technology in Computer Science<br>GPA: 8.53/10 |

## Work Experience

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| July 2015 - Present | PhD Research Scholar at IIT Bombay<br>*Inter-disciplinary Programme in Educational Technology*<br>Dissertation Title: Developing Software Design Diagram Evaluation Skills in Students using a Technology-enhanced Learning Environment |
| Jan 2014 - July 2015 | Assistant Professor in Information Technology<br>*Fr. CRCE, Bandra*<br>Subjects Taught: Information and Network Security, Automata Theory, Operating Systems, Java Programming |
| Aug 2012 - Jan 2014 | Software Developer<br>*LoudCloud Systems*<br>Worked in the product development team which was responsible for developing various modules of the LoudCloud Systems Learning Management System (LMS). |

## Key Research Projects

- **Thesis: Developing Software Design Diagram Evaluation Skills in Students using a Technology-enhanced Learning Environment** [Ongoing]
  - I designed and developed a learning environment - "VeriSIM" to foster software design evaluation skills in computing undergraduates. The theoretical basis of the intervention is taken from learning sciences and computing education research. VeriSIM can be accessed here
  - VeriSIM trains learners to apply the design tracing pedagogy to trace scenarios for a given software design. I conducted studies in classrooms to investigate the effects of VeriSIM in students' evaluation skills.
  - I have also analysed click data logs in order to infer learner behaviours while interacting with VeriSIM.
- **Gesture based Mathematics Learning** [July 2015 - July 2016]
  I designed and evaluated a web application "Geometry via Gestures" (GvG) which enables secondary-school students to interact with 3D objects using their gestures with the help of a Leap Motion Controller.
  The GitHub page of GvG can be found here

## Relevant Coursework

Introduction to Educational Technology, Research Methods in Educational Technology, Adaptive Tutoring Systems, Learning Analytics and Educational Data Mining, Introduction to Learning Sciences, Advanced Topics in Cognition, Statistical Methods in Education Research

## Publications

1. **Prasad, P.**, & Iyer, S. (2020, November). Inferring Students' Tracing Behaviors from Interaction Logs of a Learning Environment for Software Design Comprehension. In Koli Calling'20: Proceedings of the 20th Koli Calling International Conference on Computing Education Research (pp. 1-2)
2. **Prasad, P**., & Iyer, S. (2020, August). How do Graduating Students Evaluate Software Design Diagrams?. In Proceedings of the 2020 ACM Conference on International Computing Education Research (pp. 282-290)
3. **Prasad, P.**, & Iyer, S. (2020, June). VeriSIM: a learning environment for comprehending class and sequence diagrams using design tracing. In Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: Software Engineering Education and Training (pp. 23-33)
4. Kadam K., Deep A., **Prasad P**., Mishra S.(2019) Quantitative Evaluation of Concept Maps: An Evidence-Based Approach in the Companion Proceedings 9th International Conference on Learning Analytics & Knowledge (LAK19)
5. **Prasad, P.** (2018, August). Developing Students' Cognitive Processes Required for Software Design Verification. In Proceedings of the 2018 ACM Conference on International Computing Education Research (pp.284-285). ACM.
6. Lakshmi, T. G., **Prasad, P.**, & Iyer, S. (2017, July). A System for Developing Operationalization Skills through Problem Decomposition. In 2017 IEEE 17th International Conference on Advanced Learning Technologies (ICALT) (pp. 427-429). IEEE.
7. Narayana, S., **Prasad, P**., Lakshmi, T. G., & Murthy, S. (2016, December). Geometry via Gestures: Learning 3D geometry using gestures. In 2016 IEEE Eighth International Conference on Technology for Education (T4E) (pp. 26-33). IEEE.
8. Lakshmi, T. G., Narayana, S., **Prasad, P.**, Murthy, S., & Chandrasekharan, S. (2016). Geometry-via-Gestures: Design of a gesture based application to teach 3D Geometry. In Proceedings of the 24th international conference on computers in education (pp. 180-189). Mumbai, India: Asia Pacific Society for Computers in Education.
9. Deep, A., **Prasad, P.**, Narayana, S., Chang, M., & Murthy, S. (2016, July). Game Based Learning of Blood Clotting Concepts. In 2016 IEEE 16th International Conference on Advanced Learning Technologies (ICALT) (pp. 526-530). IEEE
10. Alse, K., Ganesh, L., **Prasad, P.**, Chang, M., & Iyer, S. (2016, July). Assessing Students' Conceptual Knowledge of Computer Networks in Open Wonderland. In 2016 IEEE 16th International Conference on Advanced Learning Technologies (ICALT) (pp. 513-517). IEEE.

## Service Experience

- **Workshop Instructor:**
  - Designing and Conducting Research Studies at COMPUTE 2020, December 2020 (along with Shitanshu Mishra, T. G. Lakshmi and Pankaj Chavan)
  - Software Design Workshop at SIES Graduate School of Technology, Navi Mumbai, December 2019 (along with T. G. Lakshmi and Deepti Reddy)
  - Computing Education Workshop at COMPUTE 2019, University of Goa, October 2019 (along with T. G. Lakshmi, Kavya Alse, Deepti Reddy and Sridhar Iyer)
  - FrCRCE ACM Student Chapter Workshop: Understanding Software Design, Fr. Conceicao Rodrigues College of Engineering, Mumbai, September 2019
  - TEQIP Faculty Induction Program Session: Active Learning: Why, What and How, IIT Bombay, February 2018.
- **Teaching Assistant**
  - MOOC Course on NPTEL 2019 - Introduction To Learning Analytics
  - MOOC Course ET611Tx 2017 - Pedagogy for effective use of ICT for school teachers.
  - MOOC Course ET612Tx 2017 - Pedagogy for effective teaching-learning of CS in schools.
  - MOOC Course ET601Tx 2016 - Educational Technology for Engineering Teachers.
  - Workshop on Nurturing Quality Teaching in Engineering Education, TKM College of Engineering, Kollam, Kerala, December 2017.
- **Reviewer:**
  - Journals: Computer Science Education, Interactive Learning Environments
  - Conferences: SIGCSE 2020-2021, ITiCSE 2018-2020, ICLS 2020, AIED 2020, ICCE 2016 TELOTS Workshop
- **Local Organizing Committee Member** for International conferences: LaTiCE 2016, ICCE 2016, T4E 2016

## Technical Skills

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| Programming Languages: | Java, PHP, Python, R |
| Web Development: | HTML5, CSS, JavaScript, Node.js |