Saswat PADHI

Computer Science, UCLA

3440 Boelter Hall
University of California Los Angeles, CA 90024
padhi@cs.ucla.edu
web.cs.ucla.edu/~padhi
saswatpadhi · saswatpadhi · saswat.padhi

Interests

Compilers, Program Analysis, Program Verification, Programming Language Theory

Education

2014 – Present **MS/PhD in Computer Science (advisor: Professor Todd Millstein)**,
University of California - Los Angeles, USA, CGPA: 3.77 / 4.0.

2010 – 2014 **B. Tech. in Computer Science and Engineering (*Honors*)**,
Indian Institute of Technology - Bombay, Mumbai, CGPA: 8.85 / 10.0.

2009 **All India Senior School Certification Examination in Science**,
D.A.V. Public School - Pokhariput, Bhubaneswar, Score: 96.00% (State Rank 4th).

2007 **All India Secondary School Examination (Matriculation)**,
D.A.V. Public School - Pokhariput, Bhubaneswar, Score: 98.00% (State Rank 3rd).

Publications

Fall 2015 (In Submission) Data-Driven Precondition Inference with Learned Features
Conference on Programming Language Design and Implementation (PLDI 2016)
Saswat Padhi, Rahul Sharma, Todd Millstein
Artifact https://github.com/SaswatPadhi/PIE

Research Experience

F'14 – Present **PL and SE Lab, UCLA – Graduate Research Assistant**
Prof. Todd Millstein, University of California - Los Angeles
I am currently exploring ideas in program verification. My most recent project was focused on precondition inference for programs, using a dynamic black-box approach. Previous dynamic approaches suffered a major drawback: the user was required to define the search space for the precondition. Our approach overcomes this by growing the search space automatically in a targeted way.

F'13 – S'14 **Compilers Groups, IIT Bombay – Undergraduate Researcher**
Prof. Amitabha Sanyal, Indian Institute of Technology - Bombay
I was investigating static analysis techniques for slicing functional programs. We proposed a new technique for computing slices of *first order* functional programs statically, using a demand- transformation approach.

Summer 2012 **Technische Universität Braunschweig, Germany – Summer Research Intern, IFIS**
Prof. Wolf-Tilo Balke, Head of Institut für Informationssysteme
I was interested in using ideas in knowledge bases and information systems to improve searches on semi-structured documents. The goal of the project was to conduct a comparative analysis of bibliometric vs semantic similarity measures to estimate topical similarity in scientific literature.

Professional Experience

Summer 2013 — **Google Inc., Mountain View, CA, USA – Software Engineering Intern**

Mentor — *Smeeta Jalan*, Technical Infrastructure Team

I was working with the Borg-Omega (Google's cluster management systems) teams on automating certain aspects of testing the new Omega system. Primarily, we wanted to benchmark the Omega components with respect to Borg ones, using real traffic data. I was also working on automating the updates and maintenance of Omega components.

Teaching Experience

Fall'14 — **Programming Languages**
Teaching Assistant, University of California - Los Angeles

Spring'14 — **Abstractions and Paradigms in Programming**
Undergraduate Teaching Assistant, Indian Institute of Technology - Bombay

Fall'13 & Fall'11 — **Computer Programming and Utilization**
Undergraduate Teaching Assistant, Indian Institute of Technology - Bombay

Awards and Honors

2010 – 2014 — FIITJEE Scholarship

2008 — KVPY Fellowship (Dept. of Science and Technology, India)

2007 — National Talent Search Scholarship (NCERT, Govt. of India)

2005 — Silver medallist (national rank 2) in National Science Olympiad