SHRUTARSHI BASU

CONTACT INFORMATION

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PROFESSIONAL INTERESTS

Applied programming languages and programmable systems. Currently building robust network management systems using tools and principles from the programming language community with a focus on high-level abstractions and reliability.

EDUCATION

Cornell University, PhD Program in Computer Science, expected graduation in 2016

Lafayette College, PA *Magna Cum Laude* in 2011

- B.S. Electrical and Computer Engineering with Honors
- B.A. Computer Science with Honors

HONORS AND AWARDS

J.J. Ebers Memorial Award, 2011 for "high academic achievement and noteworthy professional interest in the field of electrical engineering."
CRA Undergraduate Outstanding Research Award, 2010 – Honorable Mention
James P. Schwar Prize, 2010 awarded to a computer science student on faculty nomination
William G. McClean Tau Beta Pi Engineering Prize, 2009 for "an engineering student who has excelled in academics and extracurricular activities during the first three semesters."

Member of **Tau Beta Pi** (Engineering), **Eta Kappa Nu** (Electrical and Computer Engineering) and **Upsilon Pi Epsilon** (Computer Science) Honor Societies

TECHNICAL SKILLS

Programming Languages: Python, OCaml, C, Ruby, JavaScript, C++, Java
Other tools: Git, GNU Make, Subversion, LaTeX, Bash

PROFESSIONAL EXPERIENCE

Graduate Research Assistant at Cornell University *May 2012 – Present*
Working with Dr. Nate Foster to build a distributed network management system involving components written in OCaml, C and Python and a Linux kernel module. Also responsible for managing and updating a hardware testbed.

Software Engineering Intern at GrammaTech Inc. *May 2011 – August 2011*
Worked on performance improvements to the CodeSonar static analysis tool. Gained experience in learning, navigating and improving a large C/C++ codebase

EXCEL Research Scholar at Lafayette College *May 2008 – May 2009, May 2010 – May 2011*
Worked under Dr. Chun Wai Liew to build a declarative programming interface and modular graphics engine for creating fractal patterns

Undergraduate Researcher at Virginia Tech *June 2009 – January 2010*
Worked under Dr. Barbara Ryder researching program representations for blended analysis. Modified existing program analysis tool and used it to analyze real-world Java programs

PROJECTS

Merlin: A novel network management framework *January 2012 – Present*
An architecture for datacenter network management using a high-level language to specify network policy and a distributed runtime monitor to implement and guarantee network properties.

WimpFi: Wireless Peer-to-peer Communications Network *August – Decemeber 2010*
Allows personals computer to communicate via RF-transceivers implemented on FPGAs. Implements a reduced version of the IEEE 802.11g with collision avoidance and exponential backoff.

Metaphor: A declarative approach to computational art *May 2008 – December 2010*
Software for visual artists to leverage computational tools. A declarative programming language as an interface to graphical libraries.