Shrutarshi Basu

programming languages and programmable systems

contact

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programming

C, C++, Java, Python
OCaml, Haskell
CSS3 & HTML5

tools

Linux, OS X, LaTeX,

research interests

Programming languages, programmable systems and networks.
Hardware and software systems for concurrent and distributed computation

education

2011 - now **PhD in Computer Science** — Cornell University
Applied Programming Languages and Programmable Networks

2007 - 2011 **Dual Bachelors degree, *Magna Cum Laude*** — Lafayette College
B.S. in Electrical and Computer Engineering with Honors
B.A. in Computer Science with Honors

honors and awards

2011 **J.J. Ebers Memorial Award** — Lafayette College, ECE Dept.
Awarded for "high academic achievement and noteworthy professional interest in the field of electrical engineering."

2010 **Outstanding Research Award** — Computer Research Association
Honorable mention for research in static analysis and computer generated art

2010 **James P. Schwar Prize** — Lafayette College, CS Dept.
Awarded to a computer science student on faculty nomination

2009 **McClean Tau Beta Pi Engineering Prize** — Lafayette College
Awarded to "an engineering student who has excelled in academics and extracurricular activities"

2009 - 2011 **Honor Society Memberships**
Member of **Tau Beta Pi** (Engineering), **Eta Kappa Nu** (Electrical and Computer Engineering) and **Upsilon Pi Epsilon** (Computer Science) Honor Societies

experience

2011 - 2012 **Teaching Assistant** — Cornell University
Graduate TA for courses in data structures and functional programming

05-08 2011 **Software Engineering Intern** — GrammaTech Inc
Performance improvements to the CodeSonar static analysis tool

06-12 2009 **Computer Science Undergraduate Researcher** — Virginia Tech
Researched dynamic program representations for use in blended analysis

2008 - 2009
2010 - 2011 **EXCEL Research Scholar** — Lafayette College
Researched the application of formal grammars to the generation of fractal patterns

2009 - 2011 **Foreign Language Resource Center Technical Assistant** — Lafayette College
Evaluated educational software and design web templates for foreign language students.

2009 - 2011 **IEEE Student Chapter President** — Lafayette College
Organized activities and meetings with the help of professors, administrators and industry contacts

2008 - 2010 **Residence Advisor** — Lafayette College
Organized activities for college residents and helped students access college resources.

projects

2011 **Freon: A novel network architecture** Cornell University
A novel architecture for datacenter network management using end hosts to perform the majority of the packet processing work. A component of the Frenetic project.

2011 **Proctor: An Actor library for Ruby** Lafayette College
Threaded, concurrent Actors in Ruby using a prototype-based programming style. Makes extensive use of Ruby's metaprogramming abilities

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

2008-2010 **Metaphor: A declarative approach to computational art** Lafayette College
Software for visual artists to leverage computational tools. A declarative programming language used as an interface to graphical libraries.

publications

peer-reviewed conferences and proceedings

Exploring the impact of context sensitivity on blended analysis
Marc Fisher II, Bruno Dufour, Shrutarshi Basu, Barbara G. Ryder
26th IEEE International Conference on Software Maintenance, 2010

other publications and presentations

A Language Based Approach to Computational Art
Shrutarshi Basu, Chun Wai Liew
Off the Beaten Track Workshop, 2012, Philadelphia

Application of formal grammars to complex patterns and evolving systems
Shrutarshi Basu, Rhodes Baker, Khine Lin
Proceedings of the National Conference on Undergraduate Research, 2009