Siddhanathan Shanmugam

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EDUCATION

DREXEL UNIVERSITY
BS in Computer Science
June 2018 | Philadelphia, PA
Pennoni Honors College
Dean's List

SKILLS

PROGRAMMING
Preferred:
Haskell • Rust • Go
Comfortable with:
C • Assembly • Scala • SQL
Java • HTML •CSS • Javascript
VHDL
Familiar:
OCaml • Clojure • LaTeX

TOOLS
Vi • Awk • ZSH • Bash
tmux • Mosh • Python

HARDWARE
Soldering • Arduino • PCB Design

THEORY
Operating Systems
Compiler Design
Functional Programming
Communication Systems
Digital Signal Processing
Control Systems
Computer Networks
Parallel & Concurrent Programming
Unix Tools and Scripting

LANGUAGE
English • Hindi • Tamil

CONTRIBUTIONS

OPEN SOURCE
Glasgow Haskell Compiler
Yi Text Editor
Ubuntu
Sympy
NixOS
Vimgolf

COLLEGE
DragonHacks
Drexel IEEE
Drexel Linux User Group
Drexel Hyperloop

EXPERIENCE

DREXEL UNIVERSITY | Research Assistant
September 2015 - March 2016 | Philadelphia, PA

CDM INC. | Data Analyst
September 2014 – March 2015 | Philadelphia, PA
- Wrote parsers for text and binary formats.
- Setup backup servers for Amazon AWS instances.
- Wrote statistical modelling applications with a web based user interface.

RESEARCH

ZIRIA | Research Assistant
April 2015 - Present | Philadelphia, PA
- Worked on the Ziria project under the mentorship of Geoffrey Mainland.
- Ported the compiler toolchain to Linux.
- Profiled the C-backend for performance bottlenecks.
- Optimized slow sections of the C-backend.
- Wrote tools to auto generate performance charts.
- Ported DSP algorithms from C to high-level PHY descriptions in Ziria.
- Worked on a VHDL backend for an OFDM implementation.

HYPERLOOP | Control Systems Engineer
September 2015 – Present | Philadelphia, PA
Proposed a revolutionary approach for controls to SpaceX engineers.

ORATIO | Researcher
April 2016 – Present | Philadelphia, PA
Worked on an algorithm for objectively classifying quality of speech in real time.

PROJECTS

PAPER TOUCHÉ
Hacking Audio and Music Research, Philly 2014
A touch capacitive paper based musical synthesizer focused on Human Computer Interaction. Used a touch-based interface made using paper and graphite.

CVRECOGNITION
#Hack4Access, Philly 2014
Context aware face recognition for Android. Also includes traffic light detection. Initially aimed towards helping people with memory loss issues, but later tweaked to help people who are visually impaired as well.

DRAGON TMS
Philly Codefest 2015
An automatic class schedule generating application for students of Drexel University. Capable of avoiding time conflicts, and ranking schedules based on user preferences.

SWMMOUTGETMB
Philly 2015
A parser for US EPA SWMM 5 binary .OUT files, with an option to export CSV data. The program has seen real world usage by multiple governments across the world.