

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

Glassgow Haskell Compiler

Yi Text Editor

Ubuntu

Sympy

NixOS

Vimgolf

COLLEGE

DragonHacks

Drexel IEEE

Drexel Linux Users 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.

ORATIO | RESEARCHER

November 2015 - Present | Philadelphia, PA

Worked on an algorithm for objectively classifying quality of speech in real time.

HYPERLOOP | CONTROL SYSTEMS ENGINEER

September 2015 - Present | Philadelphia, PA

Proposed a revolutionary approach for controls to SpaceX engineers.

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.