

Siddhant Ekale

Computer Engineer

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EDUCATION

Purdue University

BS, Computer Engineering

CGPA: 3.52/4.00 (December 2016)

WORK EXPERIENCE

Lutron Electronics | Software Engineering Intern

Coopersburg, PA, USA, Summer 2016

- Optimized firmware update algorithms (s-rec transmission) to support up to a 2x speed improvement. (Project Value: \$800 per day)
- WPF application developed for new firmware update support (VS 2015, .NET 4.5 framework) (built from scratch).
- Led weekly design and code reviews, accomplished two internal releases for the developed application.

Purdue University | Teaching Assistant (Computer Architecture)

West Lafayette, IN, USA, Fall 2016

- Assisted students in debugging design specific questions for MIPS 32 bit single/pipelined/cached/multicore processor

Purdue University | Teaching Assistant (Introduction to C)

West Lafayette, IN, USA, Spring 2015

- Led a lab of 30 students, setting assignments, and briefing important concepts (mainly arrays and pointers).

Extensia Information Technology | Software Engineering Intern

Pune, MH, India, Summer 2014

- OCR Integration using a proprietary library into currently deployed Win Phone Applications using VS 2013 on .NET 4.5 framework.
- Cross browser compatibility testing for web applications and daily bug fixes.

PROJECTS

Infiniti (HackIllinois Intel, First Prize)

UIUC 2016

- Built a server side game controller by integrating it with Intel Edison processor, interfaced with accelerometer.
- Role: Calibrating the accelerometer by writing code to interpret <x, y, z> values and set appropriate flags to interface with JavaScript game app as well as helping Django server configurations.

DJarvis (HackIllinois)

UIUC 2017

- Web app that determines user emotion through webcam captured image processed using Microsoft Cognitive API and builds Spotify playlist of 20 tracks that blends into user's mood and gradually making it positive. Contribution: Idea, Stack Decision, Node.js server setup, complete architecture, Webcam capture functionality along with integrating with Blobstorage.

Limitless Hardwood (Boilermake IV)

Purdue 2017

- Particle photon powered Wi-Fi IOT project to show user preference data on a small cube.
- Contribution: API for retrieving bank account information, OLED SPI interfacing, server side communication architecture

MIPS Processor Design

Purdue 2016

- Implemented 32-bit dual core (MSI protocol) pipeline processor with set associative LRU caching on an FPGA.
- Contribution (Design and Implementation): Pipelined data-path, Cached interface, Branch prediction.

Project Glass

Purdue 2016

- Wearable gear designed for displaying Android Notifications on an OLED projected in front of the eye.
- Weather data extraction using API, SPI interfaced for OLED, Bluetooth LE interfaced for duplex communication

Purdue SOC Design Team

Purdue 2016

- Worked on implementing a Platform Level Interrupt Controller for a RISC-V core implementation
- Wrote UART software driver for the SOC equipped with interrupt handlers and call back functions.

Compiler Design

Purdue 2016

- Built a fully functional compiler using ANTLR, for custom "LITTLE" language.
- Wrote code for converting Intermediate Code to MIPS Assembly, register allocation using dataflow analysis.

LEADERSHIP AND ACADEMIC ACHIEVEMENTS

Semester Honors

(Fall 13, Spring 14, Fall 14, Fall 15, Spring 16)

Cofounder, Purdue Social Services Network

2015

RELEVANT COURSEWORK

DS & Algorithms, Compilers, Computer Architecture, ASIC Design, Embedded Systems, Signals and Systems

PROGRAMMING SKILLS AND TOOLS C, C++, C#, Node.js, HTML/CSS, Java, Python, Bash, System Verilog, VC using Git, JIRA