Joshua Franz

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EDUCATION

UNIVERSITY OF MICHIGAN
BS in Electrical Engineering
Expected May 2016 | Ann Arbor, MI
College of Engineering
Dean's List (All Semesters)
Cum. GPA: 3.87 / 4.00

COURSEWORK

EECS311 - Electronic Circuits
EECS312 - Digital Integrated Circuits
EECS373 - Design of Microprocessor Based Systems
EECS473 - Advanced Embedded Systems
EECS418 - Power Electronics
EECS470 - Computer Architecture

SKILLS

SYSTEM DESIGN
- Block Diagram Creation
- Component Selection
- Power Analysis

PCB DESIGN
- Schematic Capture
- Board Layout
- Component Library Management
- SMPS Design and Layout

SOFTWARE DEVELOPMENT
- Embedded Development
- Mobile Applications
- Driver Development
- Scripting

Languages
C • C++ • Java • Python •
Objective-C • Verilog • MATLAB

Software
EAGLE • Cadence • LTSpice • Git •
LaTeX • Vim • Bash

AWARDS

- Boy Scouts of America – Eagle Scout Award
- Member of the winning team of the 2012 MHacks:Impact Hackathon

WORK EXPERIENCE AND RESEARCH

APPLE INC. | Electrical Engineering Intern
January 2015 – Present | Cupertino, CA / Remote
- Designed embedded systems for internal research group
- Created Verilog project to be synthesized and implemented on FPGA
- Developed software for quality assurance testing

A2B BIKESHARE | Electrical Design Engineer
January 2014 – Sep 2014 | Ann Arbor, MI
- Independently designed a PCB for an Android-based Smart Bike
- Wrote Linux kernel drivers for touchscreen and peripheral features
- Performed power analysis on Android OS to find and fix power issues

GENTEX CORPORATION | Electrical Design Engineering Intern
April 2011 – August 2012 | Zeeland, MI
- Created Test and Measurement tools for measuring LCD flicker
- Developed EDA backup utility to ensure design archive safety
- Assisted in designing LED drive circuitry for blind spot indicators

APRIL LABORATORY | Undergraduate Research Student
September 2011 – May 2012 | Ann Arbor, MI
- Researched three-dimensional path planning algorithms
- Implemented A* and wavefront algorithms for aerial vehicle path planning
- Created original algorithm with improved time efficiency compared to 3D wavefront search

EXTRACURRICULAR

MICHIGAN AUTONOMOUS AERIAL VEHICLES | Team Member
September 2011 – Present | Ann Arbor, MI
- Designed circuit board for an autonomous quadrotor helicopter
- Wrote software for navigation and path planning through unknown environments
- Taught electronics design skills to new team members to supplement their classroom knowledge

UNIVERSITY HOUSING | Resident Advisor and Academic Advisor
September 2013 – Present | Ann Arbor, MI
- Resident Advisor for Northwood Apartments for 2013-2014 academic year
- Peer Academic Success Specialist (PASS) for Northwood Apartments for 2014-2015 academic year
- Assisted residents in academic, professional, and personal development
- Planned community activities and social events for residents

CHARGII | Co-Founder
October 2012 – June 2013 | Ann Arbor, MI
- Founded startup with the goal to create smart power strips to eliminate standby energy waste
- Developed prototypes of IoT power-strip and smartphone applications
- Performed market research to develop company vision