

David McNeil

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Profile

I am a computer engineering major with a strong background in computer science and software development currently pursuing a master's degree in electrical engineering focusing on machine learning and computer architecture. I am seeking a full time position starting in the summer of 2016 implementing systems which integrate machine learning.

Experience

2014 - 2015

Three Months

Indesign - FIRMWARE ENGINEER INTERN - INDIANAPOLIS, INDIANA

Developed an embedded system which interfaced with numerous sensors and actuators.

Technology Used: C, MSP430, Hall Effect Sensors, Current Sensors, RFID, Servo Motors

2014 - 2015

Nine Months

Naval Surface Warfare Center - SENIOR DESIGN PROJECT - CRANE, INDIANA

Developed a system to predict location based on RF spectrum data.

Technology Used: Python, SQLite, GPS, Software Defined Radio

2013 - 2014

Three Months

Garmin - LOW LEVEL SOFTWARE ENGINEER INTERN - OLATHE, KANSAS

Developed software for operating system profiling. Updated, maintained, and debugged extensive C/C++ code base.

Technology Used: C, C++, Lauterbach Debugger

2012 - 2013

Three Months

Cetani - SOFTWARE DEVELOPMENT INTERN - CARMEL, INDIANA

Developed a server for issuing hospital notifications and pushing real-time changes in generic data to front end user interfaces.

Technology Used: Ruby, Rails, C#, Javascript, Node.js, SQLServer, HTML, CSS

2011 - 2012

Three months

Oasis Digital - SOFTWARE DEVELOPMENT INTERN - CHESTERFIELD, MISSOURI

Developed a work management system from the ground up.

Technology Used: Node.js, Javascript, Backbone.js, PostgreSQL, HTML, CSS

Projects & Coursework

2014 - 2016

In Progress

Machine Learning

Developed a classifier for detecting sunset images, optical character recognition software, resistor classification software, and voice recognition software. Certification in machine learning from Stanford University.

Technology Used: TensorFlow, MATLAB/Octave, Neural Networks, Support Vector Machines

2015 - 2016

In Progress

Master's Thesis - TERRE HAUTE, INDIANA

Development of a computer architecture simulator, assembler, and compiler for neuroscience research.

Technology Used: C, Flex, Bison, Hodgkin-Huxley Model

2015 - 2016

Ten Weeks

Artificial Intelligence

Study of searching algorithms, reinforcement learning, machine learning, and cutting edge applications.

Technology Used: Python, Natural Language Processing

2015 - 2016

Ten Weeks

Mixed Signal Test and Product Engineering

Developed software capable of testing comparators, digital to analog converters, and analog to digital converters.

Technology Used: C, Automated Test Equipment

2014 - 2016

Twenty Weeks

MEMS Modeling and Fabrication

Optimization of heat actuator process flow. Study of advanced processing techniques.

Technology Used: Photoresist Spinner, Electron Beam Evaporator, Mask Aligner, Chemical Etchants

2012 - 2015

Twenty Weeks

Computer Architecture

Designed and implemented multicycle processor and corresponding assembly language. Study of RISC architectures, DSP architectures, and modern out of order processors.

Technology Used: Verilog, Spartan-3 board, MIPS assembly, x86 assembly, gem5 simulator

2014 - 2015 <i>Ten Weeks</i>	Programming Language Concepts Studied syntax, semantics and design of programming languages and implemented a Scheme interpreter. Technology Used: Scheme
2014 - 2015 <i>Ten Weeks</i>	Digital Systems Designed combinational and sequential logic circuits using FPGAs. Developed system which interfaced over VGA to play simple game. Technology Used: Verilog
2013 - 2015 <i>Thirty Weeks</i>	Signals and System Study of continuous and discrete time signals and systems. Design and analysis of filters and sampling methods. Technology Used: Matlab, LabVIEW, Electronics lab bench equipment
2013 - 2014 <i>Ten Weeks</i>	Data Structures and Algorithm Analysis Intensive study of space and time trade-offs of using various data structures and algorithms. Technology Used: Java
2013 - 2014 <i>Ten Weeks</i>	Embedded System Design Developed digital systems using PIC microcontrollers. Interfaced with both digital and analog peripheral devices. Studied PCB layout and design. Technology Used: C, Assembly Language, Eagle PCB Design Software
2012 - 2013 <i>Ten Weeks</i>	Operating Systems Created bare metal operating system with interactive shell and process scheduling algorithm. OS provided basic file manipulation and script running capabilities. Technology Used: C, x86 assembly, Bochs Emulator
2012 - 2013 <i>Ten Weeks</i>	Computer Networks Developed an HTTP server. Dealt extensively with sockets and network communication state machines. Technology Used: C, C#, Wireshark
2012 - 2013 <i>Forty Weeks</i>	Circuit Design and Analysis DC/AC Circuits, Electronic Device Modeling, Analog Electronics. Learned and put into practice circuit analysis and construction techniques. Technology Used: Electronics lab bench equipment, SPICE
2010 - 2011 <i>One month</i>	AI Challenge Placed 323 out of nearly 8000 contestants in an international programming contest. Implemented algorithm to control a virtualized colony of ants. Technology Used: Python
Education	
2015 - 2016 <i>In Progress</i>	Rose-Hulman Institute of Technology (3.94 GPA) - TERRE HAUTE, INDIANA Master of Science in Electrical Engineering with a focus in computer architecture and machine learning.
2013 - 2015 <i>Three Years</i>	Rose-Hulman Institute of Technology (3.64 GPA) - TERRE HAUTE, INDIANA Bachelor of Science in Computer Engineering, Minor in Computer Science.