

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 computer architecture and machine learning. I am seeking a full time position starting in the summer of 2016 designing systems which integrate machine learning and data science.

Experience

2015 - 2016

In Progress

Master's Thesis - TERRE HAUTE, INDIANA

Development of a computer architecture simulator for neuroscience research and implementing neural networks.

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

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. Independent study on neural networks.

Technology Used: MATLAB, Neural Networks, Support Vector Machines

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

Designed 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. Wrote assembler to convert instructions to the appropriate byte code. 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

Ten Weeks

Programming Language Concepts

Studied syntax, semantics and design of programming languages and implemented a Scheme interpreter.

Technology Used: Scheme

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
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 - 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 (4.00 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.