Matthew Diegel

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PROFESSIONAL SUMMARY

Recently graduated engineering student with experience in electronics, design, computer hardware, and industrial process looking to begin work in the fields of computer and electrical engineering in an entry-level position.

SKILLS

Experienced in C, C++, JavaScript, HTML, C#, ARM Assembly, CANoe, CANalyzer, PCB design, Matlab, Arduino, VSLI, VHDL, Verilog, Keil uVision, Mentor LEdit, Qt, Python, Xilinx, LaTeX, PSpice, Blender, Microsoft Threat Modeling tool and Microsoft Office.

EDUCATION

Bachelor's Degrees in Computer and Electrical Engineering **December 2019**
University of Michigan- Dearborn, Dearborn, MI

- 3.6 GPA
- Recipient of the Chancellor's four-year full-tuition scholarship.
- Honors College student.

PROJECTS

Senior Design Capstone Project **January 2019-August 2019**

- Voice-Gesture sensor system integration for vehicles to perform commonly executed in-vehicle tasks
- Sponsored by the HELLA corporation, through the use of their directional gesture recognition sensor.
- Communicated with a C++ based simulation using LIN through UART to demonstrate functionality.
- Utilized snips.ai voice recognition technology to interpret and execute user given commands.

Eight-bit Multiplier-Accumulator Circuit in VHDL **Fall 2018**

- Coded all of the low-level components needed to assemble an eight-bit multiplier-accumulator circuit in structural VHDL such as four-bit multipliers, twelve-bit full adders, etc using Xilinx.
- Successfully simulated and implemented this design on an FPGA board.

Four-Operation Arithmetic Logic Unit in VLSI **Fall 2018**

- Designed an eight-bit, four-operation ALU using low-level VLSI in Mentor LEdit, and used Xilinx to simulate the designed circuit.

Cellular Automata Application using Qt **Fall 2018**

- Coded three well known cellular automata systems: Conway's Game of Life, Langston's Ant, and Ecology in C++.
- Created a GUI application to simulate these systems to a user with editable settings.

Light Controlled Blinds **Fall 2016**

- Created a set of blinds for a window that cycles between three states based on the reading of a photoresistor.
- The blinds could also be controlled via Bluetooth through a smartphone application.

RELEVANT COURSEWORK

Courses in: Circuits, Computer methods, Digital systems, Electronics, Microprocessors, Computer architecture, Computer networks, Embedded systems, Computer hardware, Electrical materials and Devices, Communication protocols, Operating systems, Control systems, Renewable energy, and VLSI design.

EXPERIENCE

College Graduate Security Engineer **July 2020 - November 2020**
Ford Motor Company | Dearborn, MI

- Worked on Threat Models for upcoming vehicle features and feature updates. Ensured that mitigations were in place for the perceived threats.
- Reviewed requirements documents for correctness, uploaded them to Jira and assigned them to the proper parties for completion.
- The program ended abruptly due to COVID-19 related cutbacks.

Product Development Co-Op **July 2019 - December 2019**
Vector North America | Novi, MI

- Took on the task of researching and creating a plan for developing an Ethernet/IP driver for one of the companies well-known applications, CANoe.
- Worked alongside and shadowed several experienced coworkers to complete customer-facing projects,
- Completed training courses in CAN, CANalyzer, CANoe, CANoe Ethernet, and vTestStudio.

Speaker of the Senate **April 2018 - April 2019**
University of Michigan - Dearborn Student Government | Dearborn, MI