Osaze Y. **Shears**

Computer Hardware Engineer

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Objective

To design and implement leading systems in the fields of machine learning, application-specific integrated circuit design and microprocessor technology.

Education

George Mason University, Fairfax, Virginia *GPA: 3.97*

B.S. in Computer Engineering *Expected Graduation Date: May 2018*

- Coursework included work with digital circuit design, operating system concepts and microprocessors

Technical Skills

Languages VHDL, Verilog, Python, C/C++, Java, Swift, MATLAB

Software Xilinx Vivado, Xcode, PSpice, Adobe Illustrator, Adobe Photoshop, Android Studio

Work Experience

Electrical and Computer Engineering Department (George Mason University) *Fairfax, Virginia*

Learning Assistant *Aug. 2017 - Present*

- Taught undergraduate students critical digital circuit design principles, including binary arithmetic, sequential logic, and VHDL
- Provided in-class assistance to over 80 students in ECE 331: Digital System Design
- Supported over 40 students across two ECE 332: Digital Electronics and Logic Design Lab sections

Volgenau School of Engineering (George Mason University) *Fairfax, Virginia*

Peer Mentor (Tutor) *Aug. 2015 - Present*

- Provided tutoring assistance in Computer Science, Electrical & Computer Engineering, Mathematics and Physics
- Participated in several George Mason University tabling sessions to talk with hundreds of students about Computer Engineering

BAE Systems *Manassas, Virginia*

ASIC Design Intern *May 2017 - Aug. 2017*

- Developed VHDL and Verilog template files to automate the integration of memory built-in self-test (MBIST) hardware into a design
- Created thorough documentation to detail the MBIST generation and integration process for application specific integrated circuits
- Presented project deliverables to an audience of 30 Electrical & Computer Engineering professionals

Projects

George Mason University *Fairfax, Virginia*

Robotic Eye using Artificial Muscles *Aug. 2017 - Present*

- Worked in a team of six students to develop a novel robotic eye using fishing line as artificial muscles
- Researched approaches to dynamic image stabilization and 3D image tracking using C, Python and the OpenCV library

George Mason University *Fairfax, Virginia*

Real Estate Price Prediction using Machine Learning *Jan. 2017 - May 2017*

- Researched the correlation between real estate characteristics and their rent prices for over 10,000 residences across Virginia
- Developed data processing and filtering algorithms in Java and the Weka 3 GUI
- Trained six machine learning algorithms from the Weka 3 Java library to predict real estate rent prices with up to 90% accuracy

George Mason University *Fairfax, Virginia*

Single-Cycle MIPS Processor using VHDL *Jan. 2017 - May 2017*

- Developed a 32-bit, single-cycle MIPS-based processor in the Xilinx ISE using VHDL
- Implemented hardware functionality to support nearly 30 instructions from the MIPS instruction set architecture
- Deployed the processor design to a Basys 2 field programmable gate array (FPGA)