Zhaoning (Eric) Wang

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EDUCATION:

- **University of Wisconsin-Madison** *Aug 2016 –May 2020*
  Bachelor of Computer Sciences,
  Bachelor of Computer Engineering, **Major GPA: 3.6/4.00**

  Related Coursework: Computer Vision, Data Structures, Artificial Intelligence, Computer Graphics, Operating Systems, Algorithms, Signal processing, Computer Architecture and Processor, Digital System Design, Networks, Machine Learning.

EXPERIENCE:

- **REACH Robotic Lab,** Madison, WI *October 2019 – May 2020*
  HCI electrical engineer
  - Built a Human-Computer-Interaction tool with Arduino and pressure sensors for robot to mimic human motion.
  - Designed a proximity sensor array for low-distance in-depth imaging and collision detection.
  - Implemented the customized low-level software of the sensors in C++ to achieve higher performance.
  - Developed python script to connect the devices with Robot Operating System (ROS).
- **Microsoft Corp.,** Redmond, WA *May – August 2019*
  SWE Intern in Business Intelligent team
  - Designed and implemented a library for migrating reporting services in on-prem servers to cloud more conveniently.
  - Worked closely with cross-platform RESTful and SOAP APIs for integrating the cloud application.
  - Created comprehensive unit tests with mock and local SQL servers to exhaustively test the tool.
  - Work with the team in engineering practices including agile technique.
    Open-sourced GitHub Link: https://github.com/microsoft/RdlMigration
- **Siasun Robot & Automation Co., Ltd,** Shenyang, China *June – August 2018*
  Algorithm Research Intern
  - Worked on a from-scratch project on a template matching prototype algorithm for industrial robotics (parallel manipulator).
  - Derived core algorithms from open-source libraries and research papers.
  - Matched over 1000 templates with angles and positions within 90 ms.
  - Developed a system that supports the algorithm to make it a complete application and easier for later development.

PROJECTS:

- **Eye-Tracking Predictor (Python, PyTorch, TensorFlow)** *Apr 2020*
  - A webcam-based app that uses deep learning to recognize face and eyes, and predict where user is looking.
  - Trained with almost 1,500 subjects and more than a million frames.
- **Web-Based Snap Garbage Classifier (NodeJS)** *Madhack Hackathon, Fall 2019*
  - A cross-platform web app helps user to classify their garbage.
  - Worked as a back-ender for object recognition script, API use and Integration, server implementation and database setup, mostly written in NodeJS.
- **Android Application: Sleepnea (Java)** *Fall 2019*
  - An Android app that records and analysis snores to help users to evaluate their risks of Sleep Apnea and better connect with doctor.
  - Implemented the signal processing module and application java script.
- **HoloLens Application: Pixelized Renderer (C#, Unity, Python)** *Microsoft 2019 Hackathon, July 2019*
  - A Neural Network + HoloLens 2 project that user can take pictures of an item, reconstruct it through a Neural Network into pixelized 3-D Object and project it into real world with HoloLens 2.
- **Image Processing: Picture Low-Polifier (MATLAB)** *Fall 2018*
  - An app that uses image processing to transform pictures into triangular low-poly arts, written in MATLAB.
  - Focused on the image processing algorithm implementation and triangle location generation.
- **Operating Systems: MapReduce (C)** *Spring 2018*
  - A system that takes a user-written function and run it in multi-thread.

SKILLS:

- Computer Languages: proficient in Python, C/C++/C#, Java, MATLAB. Basic understanding of NodeJS, html, JavaScript, XML, Assembly Language
- Frameworks and Tools: Linux/Unix, Unity, OpenCV, Android, Deep Learning (scikit-learn, PyTorch, TensorFlow), Cloud Platforms (Azure, Google Cloud), database (MongoDB), Arduino.
- Other Skills: Git, Microsoft HoloLens, Rapid Prototyping (3D modeling and printing).