Andrew Vernier

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EDUCATION

University of Michigan — Ann Arbor, MI
Bachelor of Science in Engineering – Computer Science — December 2019
Minor in Multidisciplinary Design
GPA: 3.93 / 4.00
Coursework: Machine Learning, Conversational Artificial Intelligence, Operating Systems, Programming Languages, Artificial Intelligence (Fall 2019), Web Systems (Fall 2019)

University of Navarra – Tecnun — San Sebastian, Spain
Engineering Study Abroad — May – June 2017

EXPERIENCE

Garmin International — Olathe, KS
Outdoor Department, Software Engineer Intern — May – August 2019
- Developed graphical representations of in-activity metrics for use on multiple smartwatch devices.
- Implemented privacy mode to hide GPS data from external use in order to comply with military regulations while still allowing all on-device features to remain intact.

Automotive OEM, Software Engineer Intern — April – August 2018
- Designed a framework for automated GUI testing of the navigation application via simulating interactions between the application and the client's API.
- Implemented asynchronous tasks for the navigation application using Qt framework such as providing locations details and generating map previews to fulfill requirements set by client's API.
- Created developer tools to increase testing and debugging efficiency such as automatic log recordings and automatic library downloading using GDB given a core dump file.

University of Michigan CROMA Lab
Research Assistant — January 2019 – present
- Achieved 30% increase in accuracy of image annotation tool by improving user interface for crowd workers used for recreating 3D scenes from 2D images for training autonomous vehicles.
- Fabricated a test harness for guiding design of generalizable image annotation tools and testbeds and facilitating the verification of such tools; work will be presented at UIST 2019.

LEADERSHIP

University of Michigan Mars Rover Team — Sept. 2017 – present
Technical Advisor — June 2019 – present
- Assisted team growth by mentoring members and setting design requirements.

Autonomous Navigation Lead — March 2018 – June 2019
- Designed state machine for autonomous mode of the rover and maintained corresponding simulator.
- Organized workshops and delegated projects to increase new member involvement and retention.
- Coded path planning algorithms for autonomous search and obstacle avoidance tasks to interface with the rover's computer vision.
- Developed sensor fusion algorithms to increase accuracy of position and orientation estimates.

PROJECTS

University of Michigan Coursework — September 2016 - present
- Built virtual assistant to tutor elementary aged students in basic math for senior design project.
- Engineered machine learning program to recognize landmarks using both CNNs and autoencoders.

Personal Projects
- Constructed personal website (amverni.github.io) for documenting my experiences.

SKILLS

Computer: C/C++, Python, JavaScript, HTML, CSS
Language: Spanish (medium writing and speaking fluency)