Sunwoo Ha
https://github.com/sunwooha

Email : sha@wustl.edu
Mobile : +1-352-226-5673

Education

- **Washington University in St. Louis** — St. Louis, MO
  PhD in Computer Science — *Aug. 2019 - Present*
- **New College of Florida** — Sarasota, FL
  Bachelor of Arts in Computer Science — *Aug. 2015 – May 2019*

Experience

- **New College of Florida** — Sarasota, FL
  Research and Teaching Assistant — *Aug. 2017 - May 2019*
  - **Research Assistant - Missing Data**:
  - **Teaching Assistant - Object-Oriented Design**:
  - **Teaching Assistant - Functional Problem Solving with Scheme**:
  - **Teaching Assistant - Social and Ethical Issues in Computer Science**:
- **Washington University in St. Louis** — St. Louis, MO
  Undergraduate Research Assistant — *Summer 2018*
  - **Home Automation Scheduler**: Developed a user interface for Home Automation Scheduler (HAS) in D3, which is an increasingly popular JavaScript library for visualizing data. HAS is an ongoing project that schedules and optimizes the working times of connected smart devices in the home based on user constraints, electricity cost, and energy consumption. My contribution to this project is a dashboard that visualizes the optimal schedule produced by HAS. It gives users the option to edit the proposed optimal schedule for their devices as necessary and view the energy cost/consumption by the hour as the schedule changes.
- **Worcester Polytechnic Institute** — Worcester, MA
  Undergraduate Research Assistant — *Summer 2017*
  - **EMOTIVOMood**: Past research has been able to accurately extract emotion from voice recordings and my group worked to expand those methods for depression diagnosis. We developed a framework for processing and analyzing voice recordings so that future research can work on improving the accuracy of our analysis algorithms. Our framework, EMOTIVOMood (EMU), streamlines the process for data collection and preprocessing while also providing an extensible framework for different analysis methods. It is capable of being run on a highly parallel compute cluster for maximum performance.

Projects

- **Undergraduate Thesis**: Adversarially trained a hidden Markov model to generate text.
- **NYC Dogs**: An interactive, explorable story about dogs living in the boroughs of NYC written in JavaScript.
- **AcryliX**: Developed a paint software for MacOS using Java and JavaFX in a 2 week period.

Programming Skills

- **Languages**: Java, Python, C, Javascript, R, MATLAB, SQL

Relevant Coursework

- **Computer Science**: Advanced Algorithms (CSE 541T), Advanced Visualization (CSE 557A), Computer Systems Architecture (CSE 560M)
- **Data Science**: Introduction to Machine Learning (CSE 417T)
- **Mathematics**: Calculus I, II, III, Advanced Linear Algebra, Discrete Mathematics

Conference Presentations

- **AAAI-20 Poster and Demo Session** — New York, NY
  DRAGON-V: Detection and Recognition of Airplane Goals with Navigational Visualization — *Feb. 2020*
- **IEEE MIT Undergraduate Research Technology Conference** — Cambridge, MA
  EMOTIVOMood: Identifying Depression by Voice Using Machine Learning — *Nov. 2017*