

EDUCATION

Carnegie Mellon University | Pittsburgh, PA | Aug '17 - Dec '20

Major: Electrical and Computer Engineering, B.S. (Cumulative GPA: 3.33, Dean's List *Spring '19*)

Minor: Computer Science

Programming Coursework: Data Structures, Algorithms, Computer Systems, Web App Development

AI/ML Coursework: Artificial Intelligence for Social Good, Art and Machine Learning

ECE Coursework: Circuits, Digital Systems

SKILLS

Proficient: Python, Java, Javascript, C; **familiar:** HTML/CSS, C++, SQL, Linux, Git.

WORK EXPERIENCES

Software Engineer | Siemens - Product Modeling & Simulation | Shanghai, China | Jun '19 - Present

- Created a metadata extraction tool for graphs and tables using **Python**, by developing a table-to-tree algorithm inspired by ID3 to capture the metadata hierarchical structure.
- Trained a title recognition model using SVM and TF-IDF for more accurate metadata extraction.
- Refactored the existing backend code to make it more readable, scalable, and testable.

Research Assistant | Cylab - General Motor Autonomous Vehicle | Pittsburgh, PA | Jul - Aug '18

- Increased the training image annotation speed by 4 times, by creating new UI features for an internal annotation tool built with PyQt using **Python** and OOP principles.

PROJECTS

For more information about the projects, please go to <http://yuhanx.com/>

Pet Advertisement Evaluation | Team Co-lead | Popular Poster Award

- Built and optimized a dense neural network using **Pytorch**, **AWS** and **Jupyter Notebook**, and trained it with 15K animal profile data with 23 features, achieving a prediction accuracy of 87%.
- Treated class imbalance by experimenting a weighted cross entropy with different focal intensities, and tackled missing data, that make up 12% of the dataset, using a probabilistic approach.
- Improved the performance further through better data representation and data augmentation.

Deep Nightmare | Team Member

- Created an interface using Python for users to interact in real-time with images before and after training by a re-implemented DeepDream algorithm.
- Scraped 3K horror images using **Selenium** for the customized training dataset.

Food Ordering Web App | Team Lead

- Developed a RESTful web application for students to order food and arrange pickups at selected locations on campus, utilizing **Django**, **SQL**, **HTML/CSS** and **Javascript**.
- Created a suite of analytics features for vendors, by integrating multiple chart APIs.
- Tested and debugged for security loopholes, and deployed on AWS.

MagicMirror² module | Solo Project

- Built a program using **Javascript** and **AJAX** to display real-time nearby Pittsburgh public transport information, as a third party module to an open source smart mirror project, MagicMirror².
- Tested, debugged and deployed using **Node.js** on a smart mirror powered by **Raspberry Pi**.

Smart Photo Curator | Team Member

- Built an **Android** app prototype that ranks photos based on the facial expressions of portrayed subjects, using an algorithm developed using Google and Microsoft Facial Recognition APIs.

LEADERSHIP

Vice President | IEEE CMU Student Chapter | Oct '18 - May '19

- Managed one of the biggest and most inclusive CMU ECE undergraduate organizations.
- Oversaw the planning of social and professional events for the ECE undergraduate community.

AWARDS

- Participated in 2019 Goldman Sachs Summer Insight Series, selected out of hundreds of applicants.
- Led teams to win 3 awards in 2019 IEEE Student Activities Conference, among 20+ schools:
 - 1st place in robotics competition, 2nd place in hackathon, 3rd place in circuit building competition.