

Yan Wang

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EDUCATION

Vanderbilt University, Nashville, TN

Aug. 2017 – Dec. 2020

Bachelor of Science in Computer Science and Mathematics

GPA: 3.942/4.0

Selected Coursework Data Structures; Intermediate Software Design; Discrete Structures; Modeling and Simulation; Computer Organization; Programming Languages; Operating Systems; Concurrent/Parallel Java in Android; Algorithms; Advanced Machine Learning; Virtual Reality

Honors Vanderbilt University Dean's Honor List; ACM-ICPC 1st Place of Tennessee in 2019 Mid-Central Regional; Honorable Mention for CRA 2021 Outstanding Undergraduate Researcher Award

TECHNICAL SKILLS

Programming Languages Python, C/C++, Java, Swift, C#, JavaScript, HTML, CSS, SQL

Frameworks & Tools Scikit-Learn, Keras, React, Node.js, Unity, Linux, AWS, Git, NetLogo, Xcode

EXPERIENCE

Software Engineering Intern

June 2020 – Dec. 2020

Institute for Software Integrated Systems

Nashville, TN

- Built the Cyber-Physical System and CNN models in Python to enable end-to-end learning on DeepNNCar.
- Increased the speed of DeepNNCar by 53% by integrating Simplex Structure into autonomous driving.
- Implemented VGG16 model for vehicle recognition with Keras and obtained 96.67% accuracy on 7325 images.
- Reduced 30% time of system construction by optimizing the development with the ALC Toolchain.

Machine Learning Research Intern

June 2019 – Aug. 2019

Vanderbilt University

Nashville, TN

- Developed a video pipeline with Scikit-Learn and Keras to recognize clinical procedures during emergency care and send real-time info of patients to receiving hospitals.
- Implemented the data pipeline in Python to process OpenPose JSON data and upload it to AWS.
- Applied 8 classifiers to recognize 30 different clinical procedures from 1200 previous datasets.
- Improved the classification accuracy by 80% by switching from simple classifiers to LSTM-based CNN model.

Teaching Assistant

Aug. 2018 – Dec. 2020

Vanderbilt University

Nashville, TN

- Held 2 office hours per week and assisted students with programming assignments and exam reviews.
- Graded 200+ weekly Java programming assignments and led group discussions and peer review sessions.

PROJECTS

Personal Website | www.yanwanghunter.com (for additional information and research projects)

Face Search + Mask Detection App | *HTML/CSS, JavaScript, Python, OpenCV, React, Node.js, SQL, Keras*

- Built a full stack web app utilizing OpenCV API to allow users to search for human faces in uploaded images.
- Designed RESTful backend server enabling user records to be stored persistently in database.
- Implemented the machine learning models to detect whether the face in an image correctly wearing a mask.
- Improved the detection accuracy from 82% to 98% by switching from PCA-SVM pipeline to VGG16 model.

Escape From Mars | *C#, Unity, Photon Unity Networking, Agile Methodology*

- Developed a VR multiplayer Escape Game using Unity and C# that allows players to immerse themselves into the role of an astronaut on Mars who is searching for the way back home to Earth.
- Improved the performance and reliability of networking with Photon Unity Networking.
- Participated in the Agile software development and led team in the design and coding phases of the project.

Modeling Market Mechanism + Stock Prediction | *Python, Keras, TensorFlow, NetLogo, Deep Learning, LSTM*

- Designed an agent-based Minority Game model in NetLogo to model the market mechanism.
- Implemented an LSTM-based Recurrent Neural Network to predict the stock prices for tech companies.