YAN WANG

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EDUCATION

Vanderbilt University, Nashville, TN Expected Graduation: December 2020

Major Bachelor of Science, Computer Science and Mathematics **GPA** 3.93/4.00

Relevant Coursework Program Design & Data Structures; Intermediate Software Design; Discrete Structures; Digital Logic; Modeling & Simulation; Computer Organization; Programming Languages; Principles of Operating Systems; Concurrent/Parallel Java in Android; Cryptography; Algorithms; Mathematical Data Science

Honors Vanderbilt University Dean's Honor List (all semesters); ICPC (ACM) 1st Place of Tennessee in 2019; 2nd Place of Tennessee in 2018.

SKILLS

Programming Languages: C++, Java, Python, JavaScript, HTML, CSS, C#

Frameworks & Tools: Scikit-Learn, Keras, React.js, PostgreSQL, Node.js, Simulink, AWS, Unity, NetLogo

PROFESSIONAL EXPERIENCES

Software Engineering Intern at Institute for Software Integrated Systems June 2020 – Aug. 2020

- Evaluated the ALC Toolchain on neural network models and architectures.
- Integrated Simplex Strategy for autonomous driving onto ALC Toolchain.
- Implemented VGG16 model with Keras for vehicle recognition; 96.67% testing accuracy on 7325 images.
- Demonstrated the ALC Toolchain is reproducible and traceable during the development of a CPS system.

Undergraduate Research Assistant at Vanderbilt Jan. 2020 – May 2020

- Applied unsupervised learning to find if there are certain patterns in people exploring a maze.
- Used the UMAP method on collected data and detected 2 clusters among 104 datasets.
- Results from statistical tests indicated a significant difference in MRT score between the 2 clusters.

Machine Learning Research Intern at Vanderbilt Hail Lab June 2019 – Aug. 2019

- Developed a video pipeline automatically recognizes clinical procedures during emergency care and sends real-time info of patients to receiving hospitals.
- Applied 8 supervised learning algorithms (SVM, Random Forest, and Gradient Boosting, etc.) of Scikit-learn to recognize 30 different clinical procedures of 1200 previous datasets.
- Processed and modified raw OpenPose JSON data with NumPy and Pandas, and uploaded data to AWS.
- Evaluated the 8 algorithms on raw and modified data by confusion matrix and classification report.
- Designed Pipeline improves EMS for 20, 000+ agencies by reducing information loss.

Teaching Assistant for CS 1101 at Vanderbilt Aug. 2018 – May 2020

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

PROJECTS

Face Search App

- Face Search is a webpage utilizing OpenCV API for users to search for human faces in images.
- Built a back end server with Node.js and created a PostgreSQL database to capture user data.
- Designed an interactive webpage with AJAX technology (HTML, CSS, JavaScript) and deployed on Heroku.

Rubik's Cube

- Developed a 3D Rubik's Cube game for MacOS and Windows in C# using the Unity engine.
- Led team in the coding phase of development and presented to 200+ people in VandyHacks' demo.

Modeling Market Mechanism with Minority Game

- Designed an agent-based Minority Game model in NetLogo. Simulated market mechanism with the model.
- Predicted fluctuation of the global financial market for people to make appropriate investment adjustments.