STEVEN DEFALCO

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EDUCATION

Stevens Institute of Technology — Hoboken, NJ
Bachelors of Science in Computer Science, GPA: 3.86 — *Sep. 2021 – Present*

Marine Academy of Science and Technology — Highlands, NJ
GPA: 96.5/100, Activities: National Honor Society, NJROTC, Key Club — *Sep. 2017 – Jun. 2021*

EXPERIENCE

Stevens Institute of Technology — Hoboken, NJ
Computer Science Course Assistant — *Sep. 2022 - May 2023*

- Instruct undergraduate students in "Introduction to Computer Science" and "Data Structures" courses.
- Collaborate with peers and the professor to design and maintain a comprehensive curriculum for 15-week semesters.
- Conduct weekly lab sessions and office hours to demonstrate concepts and facilitate task-based learning; used over 25 carefully-crafted assignments to reinforce student understanding of material; contributed to 98% pass rate.

Pixel Light Digital Media — Lyndhurst, NJ
Software Testing & Quality Assurance Analyst — *Jun. 2022 - August 2022*

- Designed and conducted tests on subsequent software iterations of a real-time, computer vision + artificial intelligence system to be used in a published app used to track foot traffic, dwell time, and interaction with convention booths.
- Tested distance prediction accuracy of the software with faces in 3-Dimensional space using variable conditions.
- Accomplished a 400% increase in relative accuracy of A.I. distance prediction while spearheading the testing.
- Final product predicts a distance which is within an average 2 feet of the true value (within effective 50 foot range).
- Tracked over 51,000 impressions across 3-day commercial deployment using product; analyzed dwell time and location to provide client feedback with the goal of optimizing booth interactivity and attention given to primary displays.

PROJECTS

predictMLB (Summer 2023): Independent project in which I developed and deployed an autonomous Twitter bot that publishes same-day MLB game winner predictions using a deep learning model and runs on AWS Lightsail
Used: *Python, AWS, Git, LightGBM, MLB Stats-API, Twitter API, Concurrent Programming, APScheduler*

- Designed and developed object-oriented infrastructure to request player/team data from MLB Stats-API and odds data from Odds-API; constructs each game as an individual training sample in the format of a pandas Series
- Optimized and scaled features to prepare for training, fine-tuned LightGBM boosting framework for binary classification task, tuned hyperparameters to maximize accuracy
- Trained model using 6,300 samples, achieved 66% accuracy on unseen testing set of 1100 samples
- Engineered Python script to run as background process on an AWS Lightsail Linux instance, uses *cron-like* scheduling to run recurring subprocesses that request upcoming games and predict using the trained model, games are scheduled and tweeted through the Twitter API to @predictMLB

COURSEWORK

Deep Learning: Graduate-level course with a focus on the design and implementation of modern deep learning models.
Learned: *Neural Network Design, Computer Vision, Natural Language Processing*   Used: *TensorFlow, Keras, Python*

Operating Systems: Course covering the internals and programming interfaces of modern operating systems.
Learned: *Processes, Concurrency, Programming with Threads, Memory Management*   Used: *Linux Kernel, C, Debian*

Other: Algorithms, Data Structures, Database Management Systems, Software Development Process, Machine Learning, Programming Languages, Computer Architecture, Statistics, Linear Algebra, Discrete Mathematics

SKILLS AND TECHNOLOGIES

Languages: Python, C/C++, SQL, Java, Bash, R   **Technologies**: Git, AWS, Linux, Latex

EXTRACURRICULARS

Alpha Sigma Phi Fraternity: Vice-President of the Alpha Tau chapter of the Alpha Sigma Phi national fraternity. Responsible for overseeing and coordinating all events, promoting effective communication, leading conflict resolution.