# 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: Key Club, National Honor Society, NJROTC* — *Sep. 2017 – Jun. 2021*

## Experience

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

- 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, 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 data from MLB Stats-API and an ELO metadata sheet; 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 over 5,000 samples, achieved 64% accuracy on unseen testing set of 900 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*

**Software Development Process**: Course covering the essentials of developing better software in less time.
Learned: *Development Life Cycles, Archiecture and Design, Development Methoodoliges* Used: *GitLab, C++, OOP*

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

**Other**: Algorithms, Data Structures, Statistics, Linear Algebra, Discrete Math, Prog. Languages, Comp. Architecture

## Skills and Technologies

**Languages**: Python, C/C++, Java, Bash, OCaml, R, ARM Assembly **Technologies**: Git, AWS, 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.