Matthew Yang

US Citizen

MattYang@gatech.edu
Mobile : (978) 609-8627

Education

Georgia Institute of Technology — Atlanta, GA
B.S./M.S. in Computer Science, GPA: 4.0 — *Expected: Dec 2021*

- **Past Coursework**: Machine Learning, Graph Theory, Linear Algebra II, Robotics & Perception, Intro to AI
- **Fall 2020 Coursework**: Grad Deep Learning, Intro to Grad Algorithms, Automata & Complexity

Thomas S. Wootton High School — Rockville, MD
GPA: 4.61, ACT: 36 — *Graduated May 2018*

Skills

Languages: Python, Java, Matlab, C++ (Basic), HTML/CSS/JavaScript
Technologies: Dash, Flask, React, AWS (DynamoDB, S3, Lambda, SSM, EC2, etc.)
Python/ML Libraries: PyTorch, NumPy, scikit-learn/SciPy, pandas, Plotly, Matplotlib, Keras (Basic)

Experience

Amazon — Seattle, WA
Software Development Engineering Intern — *May 2020 – August 2020*

- Working on highly confidential project (next-gen device)
- Leveraged AWS EC2, S3, DynamoDB, Systems Manager, and CloudWatch, to automate data processing for ML pipeline—saving 3 hours/session (10,000+ sessions in future)
- Increased the accuracy of an audio processing step from ∼20% to ∼98%
- Optimized the runtime of other (confidential) algorithms by an average of ∼40%

Data-Driven Education Team (VIP Program) — Atlanta, GA
Lead Software Engineer / Project Manager — *August 2019 – Present*

- Led the development of an app for students and professors that integrates insights from previously trained models
- Oversaw the JITI sub-team: managed development timeline, distributed tasks, and onboarded new members
- Used Python Dash (by Plotly) to build core features of the application, including the integration of grade prediction and various data visualizations of student progress, clickstream data, and assignment data

Data Scientist

- Worked on project (Just-In-Time-Intervention) to predict student grade outcomes for Georgia Tech online MS courses using edX clickstream data, piazza forum data, and assignment data—stored in PSQL & MongoDB
- Performed data wrangling and model training, w/ best model achieving +/- 12 grade points at the midterm

Entertainment Intelligence Lab — Atlanta, GA
Undergraduate Research Assistant (Dr. Mark Riedl's lab) — *August 2020 - Current*

- Creating novel algorithms that can be generalized to solve multiple games—currently applying Deep Q-Network agents to Minecraft, with the goal of being able to perform complex tasks while handling changes to game rules

Georgia Tech College of Computing — Atlanta, GA
Intro to Artificial Intelligence TA (CS 3600) under Dr. Mark Riedl and David Kent — *August 2020 – Present*

Private Tutor — Rockville, MD
Tutor — *July 2017 - June 2018*

National Oceanic and Atmospheric Administration — Silver Spring, MD
Intern — *Summer 2016 and 2017*

Projects

- **Citadel Datathon (Python, scikit-learn, Matplotlib, Seaborn)**: Week long datathon, performed data analysis on the socioeconomic effects of hosting the Olympic Games—focused on regional impact and public health perspective.
- **Robot Vision (Python, SciPy, GTSAM, Colab)**: Implemented robotics algorithms including: SLAM on LiDAR scans (using ICP + GTSAM), lane detection, inverse kinematics, differential drive, etc.
- **Space Trader Game (Flask, React, Python)**: Created a web video game as a 5-person group project.
- **Ranking Calculator (Java)**: Ranks video game players using Massey's method (former BCS ranking algorithm).