

Matthew Yang

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

B.S. / M.S. in Computer Science, GPA: 4.0

Expected: Dec 2021

- **Selected Coursework:** Machine Learning, Deep Learning, Game AI, Algorithms, Data Science for Social Media

SKILLS

Languages: Python, Java, Matlab, PHP/Hacklang, C++ (STL)

Technologies: Jupyter, Dash, Flask, AWS (DynamoDB, S3, Lambda, SSM, EC2, etc.)

Python/ML Libraries: PyTorch, NumPy, attrs, scikit-learn/SciPy, pandas, Plotly, Matplotlib, Keras (Basic)

WORK EXPERIENCE

Hudson River Trading

New York, NY

Algo Software Engineering Intern

June 2021 – August 2021

- Designed and built a computational graph library (in Python) for construction of medium-frequency trading signals
- Created an optimized plotting and querying library for statistical analysis and visualization of massive data sets

Facebook

Menlo Park, CA

Software Engineering Intern

Jan 2021 – March 2021

- Built tools and back-end APIs for visualizing and evaluating algorithms on Facebook's new services platform
- Improved weighted accuracy of the production category matching algo from ~45% to ~68% on 78k unique items

Amazon Lab126

Sunnyvale, CA

Software Development Engineering Intern (Confidential)

May 2020 – August 2020

- 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)
- Revamped an audio processing procedure to increase accuracy on a key metric from ~20% to ~98%
- Implemented core back-end functionality for a new data-collection website designed for WFH research studies

Georgia Tech College of Computing

Atlanta, GA

Graduate Teaching Assistant for CS 3600 (Intro to AI)

August 2020 – Present

RESEARCH

CLAWS Computational Data Lab

Atlanta, GA

Graduate Research Assistant (Prof. Srijan Kumar's lab)

August 2021 - Present

Entertainment Intelligence Lab

Atlanta, GA

Undergraduate Research Assistant (Prof. Mark Riedl's lab)

August 2020 - Dec 2020

- Created high-level API platforms/interfaces for deep reinforcement learning in Minecraft—allowing for the training of a novel algorithm that can adapt to unknown novelty in games without needing intervention (DARPA program)

Data-Driven Education Team (VIP Program)

Atlanta, GA

Project Lead

August 2019 – Dec 2020

- Oversaw project JITI (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 PostgreSQL & MongoDB
- Used Python Dash (Plotly) to build core features of a web application for struggling students, incorporating our research insights such as grade prediction, recommended resources, and areas of improvement

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).