

# Matthew Yang

matthewyangcs.github.io

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## EDUCATION

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### Georgia Institute of Technology

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

Atlanta, GA

*Expected: May 2022*

- **Graduate Coursework:** Deep Learning, Computer Vision, Special Topics Algorithms, Game AI
- **Selected Coursework:** Computer Organization, Robotics & Perception, Automata Theory, Machine Learning

## SKILLS

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

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

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

## EXPERIENCE

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### Hudson River Trading

*Incoming Algo Engineering Intern (C++/Python)*

New York, NY

*June 2021 – August 2021*

### Facebook

*Software Engineering Intern*

Menlo Park, CA

*Jan 2021 – March 2021*

- Worked alongside machine learning engineers on Facebook services (businesses) ranking
- Created numerous Jupyter notebooks to effectively visualize and evaluate current ranking algorithms/taxonomy
- Improved weighted accuracy of the production taxonomy matching algo from ~45% to ~68% on 78k unique items
- Developed back-end APIs (used in production) for data querying on the new services platform
- Modified data processing pipelines to generate features for clustering and supervised learning

### Amazon Lab126

*Software Development Engineering Intern*

Sunnyvale, CA

*May 2020 – August 2020*

- Worked on highly confidential project (next-gen Alexa 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)
- 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

### Entertainment Intelligence Lab

*Undergraduate Research Assistant (Dr. Mark Riedl's lab)*

Atlanta, GA

*August 2020 - Dec 2020*

- Applied deep reinforcement learning agents to popular multiplayer games such as Minecraft—used SOA algorithms that can adapt to unknown novelty in games without needing human intervention (DARPA program)
- Created API platforms/interfaces for game simulation and reinforcement learning training

### Data-Driven Education Team (VIP Program)

*Project Lead*

Atlanta, GA

*August 2019 – Dec 2020*

- Worked on 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
- Oversaw the JITI sub-team: managed development timeline, distributed tasks, and onboarded new members
- Led the development of an app for students and professors that integrates insights from previously trained models
- Used Python Dash (by Plotly) to build core features of the application, including the grade prediction and data vis.
- Performed data wrangling and model training, w/ best model achieving +/- 12 grade points at the midterm

### Georgia Tech College of Computing

*Graduate Teaching Assistant for CS 3600 (Intro to AI)*

Atlanta, GA

*August 2020 – Present*

### Private Tutor

*Tutor*

Rockville, MD

*July 2017 - June 2018*

### National Oceanic and Atmospheric Administration

*Intern*

Silver Spring, MD

*Summer 2016 and 2017*