

# Blake Liu

<https://github.com/Havenfire>  
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## EDUCATION

Emory University, Atlanta, Georgia

May 2025

*Bachelor of Science in Computer Science; Minor in Mathematics* GPA: 3.7/4.0

**Relevant Coursework:** Data Structures & Algorithms, Deep Learning, Discrete Mathematics, Machine Level Programming, Linear Algebra, Systems Programming, Analysis of Algorithms, Databases, Computer Science Practicum, Machine Learning.

## PROGRAMMING SKILLS

Proficient in *Python, JavaScript, React, HTML, CSS, Java*

Familiar with *C, SQL, R, Amazon AWS, Node.js, Vercel*

## PROGRAMMING EXPERIENCE

### New Way Forward Strategies - Software Development

Feb 2024 – Present

- Hired to create account authentication and management front-end and back-end under emergency conditions.
- Utilized Figma to create flow charts, diagrams, and wireframes.
- Utilized React front-end and AWS Cognito back-end.

### AUC Safety App - App Development

April 2024 – September 2024

- Developed a 12-week app in a BiT program using proprietary tech stack.
- In collaboration with The Hartford and Blacks in Technology.
- Utilizing scrum coding practices.
- Presented and demoed MVP at BiTcon

### Algory Capital - Algorithms and Research

August 2023 – September 2024

- Created a market tester in Python that uses yfinance, a REST API, to run a modified statistical arbitrage model.
- Designed options pricing model and market tester for organization limitations.
- Researched different models and developed the model with a team of 3 people in 4 weeks using agile development.
- Optimized the model using caching, profiling, and algorithm analysis to lower run time from hours to seconds.

### Project Pinnacle - App Development

January 2023 – May 2023

- Created an app in React Native using Expo Go with 5 developers in a scrum/agile development process.
- Created and maintained the back-end with Amazon AWS.
- Allows account verification, image/data storage, and account management.

### All of Us Waldman Research Lab Assistant - Data Science / Analytics

August 2022 – May 2023

- Developed a script that data mined the All of Us national research database (1,000,000+ participants).
- Developed visuals to show the effects of COVID-19 on mental health analytic statistics using a Jupyter Notebook.
- Earned certificate proof of data processing confidentiality.

## PERSONAL PROGRAMMING PROJECTS

### The Candyworks Calculator - Web Development and Algorithms

April 2024 – Present

- Over 15,000 users saving 10 hours of labor.
- Created an open source React front-end project using a modified breadth first search algorithm.
- Utilized vitest unit testing to ensure high quality code.
- Ensured accessibility using web tools.
- Assists with Dota 2 events by optimizing user resources, increasing user efficiency up to 60%.
- Hosted on Vercel with live google analytics.
- Successfully funneled users using Reddit.

### Amazon Product Machine Learning Final Project

August 2023 - November 2023

- Python project that trains on an Amazon product Kaggle database and predicts future revenue based on 22 features.
- Uses stacking, combining K-NN, Decision Trees, Neural Networks, and Linear Regression to predict optimally.
- numpy, pandas, sklearn, matplotlib.

### AI Simulation Projects

April 2019 – Dec 2022

- Uno Flip! - Java AI agents using rule-based algorithms utilize Python visualization libraries.
- UltimateTTT - Java visualization tools created a dynamic board game with multiplayer and 3 AI difficulties.
- Connect 4 - AI used heuristics to optimize move order.

## RELEVANT WORK EXPERIENCE

NWF Strategies - Contract Software Developer

Feb 2024 – Present

## COMMUNITY ENGAGEMENT AND LEADERSHIP EXPERIENCE

Emory Chess Club President, Emory University

April 2023 – Present

Algory Capital QI Risk Management Project Manager, Emory University

Sep 2023 – Sep 2024

Hack for Impact Hackathon Winner (\$1,000), Atlanta Tech Village

Feb 2024

Fairport Robotics President/Subteam Leader, Fairport High School

Sep 2017 – May 2021

## ADDITIONAL SKILLS

**Languages:** Fluent in *Mandarin*, Basic proficiency in *German*