# Jonathan Liang

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## EDUCATION

**Georgia Institute of Technology**                    Expected Graduation: May 2026
*B.S. in Computer Science (Intelligence + Information Internetworks)*                    **GPA: 4.00/4.00**

## WORK EXPERIENCE

**Computer Science Teaching Assistant**                    August 2025 – Present
*CS 4400 Introduction to Database Systems at Georgia Tech*                    *Atlanta, GA*
- Building and refining autograder infrastructure for projects and exams to streamline grading for 545 students.
- Guiding students in office hours and forums with SQL debugging and clarifying core database concepts.

**Software Development Engineer Intern**                    May 2025 – August 2025
*Amazon*                    *Bellevue, WA*
- Built a tool for a high-traffic service central to Amazon's ordering experience with Java, Spring, and AWS AppConfig.
- Achieved 3x reduction in average ticket resolution time and enabled more production-realistic load and stress testing.
- Authored the design document and led the design, operational readiness, and security certification reviews.
- Spearheaded coordination with other service teams, security reviewers, and product managers to secure approvals.

**Software Engineer (Infrastructure and Security Team)**                    August 2024 – May 2025
*Student Government Association IT Board at Georgia Tech*                    *Atlanta, GA*
- Secured apps used by 20,000+ Georgia Tech students by developing safeguards to prevent sensitive PII exposure.

**Software Engineer Intern**                    May 2024 – August 2024
*Emnovate - DigMe*                    *Atlanta, GA*
- Designed and built an end-to-end, fully responsive product page using Next.js and Tailwind CSS.
- Wrote and streamlined product documentation, achieving a 7x reduction in onboarding time for new customers.

**Full Stack Software Engineer**                    August 2023 – May 2024
*Data Science at Georgia Tech - Tech Team*                    *Atlanta, GA*
- Enhanced the Data Science at GT member portal used by 500+ faculty and students by shipping collaboration features in React.js, optimizing Express.js API endpoints and PostgreSQL queries, and deploying to Heroku.

**Software and Information Technology Intern**                    June 2023 – August 2023
*University of North Carolina Chapel Hill*                    *Chapel Hill, NC*
- Developed and maintained personas and event modules for CarolinaGo enhancing campus engagement for over 20,000+ students and faculty by publicizing orientations and events with PHP, JavaScript, and HTML/CSS.

## PROJECTS

**Agile Communications Architectures** | *Python, PyTorch, scikit-learn, OpenCV, NumPy, GNU Radio*
- Developing machine learning–driven semantic compression techniques to improve the efficiency of transmitting multimedia data (image, audio, video, etc.) over Software Defined Radio systems.
- Competing in the 2025 – 2026 Air Force Research Laboratory (AFRL) Software Defined Radio (SDR) Challenge.

**Full Stack Mobile Application Development: Workout Tracker** | *React Native, MongoDB, GraphQL, Expo*
- Built a full-stack workout tracker to help users track workouts, designed the backend using GraphQL and MongoDB, and shipped a React Native UI with personalized dashboards, progress charts, and structured exercise flows.

**Machine Learning: Missed Flight Connection Risk** | *Python, Pandas, TensorFlow/Keras*
- Built an end-to-end flight connection risk predictor using U.S. BTS flight data, engineered realistic itineraries, and trained and evaluated classification models in scikit-learn and XGBoost to output missed-connection probabilities.

## SKILLS

**Languages**: Java, Python, JavaScript, TypeScript, SQL, C, C++, React Native, PHP, HTML/CSS, Swift, MATLAB
**Frameworks**: Spring, Next.js, React.js, Express.js, Tailwind CSS, SwiftUI, Flask, JavaFX, Alexa Skills Kit
**Cloud & Databases**: AWS (S3, DynamoDB, Lambda, AppConfig), PostgreSQL, MongoDB
**Developer Tools**: Git, Docker, Linux, Jira, Vercel, Android Studio, JupyterLab, Tableau, PyCharm, JupyterLab
**Libraries**: pandas, NumPy, Matplotlib, scikit-learn, TensorFlow, PyTorch, Pygame
**Core Knowledge**: Systems & Networks, Data Structures, Algorithms, Computer Architecture, Artificial Intelligence, Machine Learning, Computer Vision, Databases, Natural Language Processing, Object-Oriented Design, Agile, Scrum