

# ALVYN KWON

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## Education

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### Georgia Institute of Technology

Expected Graduation Date: May 2026

Bachelor of Science in Computer Science

Atlanta, GA

- Relevant Coursework: Data Structures, Algorithms, Object-Oriented Programming, Linear Algebra, Discrete Mathematics, Objects and Design, Computer Organization and Program, Introduction to Artificial Intelligence
- Clubs and Activities: GT WebDev, Undergraduate Research, Korean Undergraduate Student Association

## Experience

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### Accelerating Materials Discovery with A.I. Lab

August 2024 – Present

Undergraduate Researcher

Atlanta, GA

- Fine-tuned Large Language Models (LLMs) using **Python**, **PyTorch**, and the **GNN library** to generate new crystal structures, improving prediction accuracy and supporting algorithmic processes
- Enhanced model performance through advanced fine-tuning techniques on textual representations of crystals, leading to faster research outcomes and more accurate predictions

### MasterKlass

May 2024 – August 2024

Software Developer

Palisades Park, NJ

- Developed an admin site using **React** and **Django**, optimizing the academy's website for responsiveness with **HTML/CSS** and **JavaScript**, resulting in improved data accuracy and user engagement
- Engineered a **Python** back-end to automate data collection and analysis of student test scores, leveraging scripts and algorithms to streamline reporting and reduce errors
- Implemented data-driven strategies to enhance educational tools and platforms, improving overall user experience and functionality

### Inspirit A.I. Scholars Research

July 2022 - August 2022

Summer Extern

Remote

- Manipulated and cleaned data from the NASA Exoplanet Archive using **Python** and **Pandas**, applying **Synthetic Minority Over-sampling Technique (SMOTE)** to improve dataset quality and balance
- Collaborated with researchers to conduct machine learning experiments in Jupyter Notebook, testing various graph types and models to optimize model selection and performance
- Developed and tested classification models, **achieving 99.97% accuracy** with a **Logistic Regression model**

## Projects

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### Wrappify | Python, Django, SQL, Git

October 2024

- Engineered a Django-powered Spotify Wrapped clone, implementing user authentication and personalized data management using **Python**, **SQLite**, and **RESTful API** integration with Spotify's backend
- Developed complex database schemas and optimized **SQL queries** to process and store user music listening data, utilizing **agile methodologies** and version control with **Git** for efficient project development

### Atlanta Plates | HTML/CSS, Javascript, Django, Git

August 2024

- Built full-stack restaurant search web app using **HTML**, **CSS**, **JavaScript**, **Django**, and Google Maps Platform API, creating dynamic, responsive user interfaces for location-based restaurant discovery
- Implemented **CI/CD pipelines** with GitHub Actions to streamline development, automate deployment, and enhance collaborative software development workflow

### Magnidia | Next.js, TypeScript, Tailwind CSS, Prisma, PostgreSQL, AWS, Google Cloud

January 2024

- Led full-stack development of an event management platform using **TypeScript**, **Next.js**, **Prisma ORM**, and **PostgreSQL**, integrating **AWS** for serverless deployment
- Developed secure authentication with **NextAuth** and **Google Cloud**, ensuring safe, personalized user access for managing and organizing events
- Optimized the frontend with **Tailwind CSS** for responsiveness and streamlined **server-side API routing** for efficient event retrieval and management

## Technical Skills

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**Languages:** Java, Python, JavaScript, TypeScript, HTML, CSS, SQL, C/C++, MATLAB

**Technologies/Frameworks:** React, Next.js, Angular, Tailwind CSS, Django, PyTorch, Prisma, Pandas

**Tools:** PostgreSQL, Docker, Amazon Web Services, Google Cloud Platform, JUnit, Git, Linux