

Julia Kang

Palo Alto, CA • julia7hk@gmail.com • [linkedin.com/in/julia7hk](https://www.linkedin.com/in/julia7hk) • github.com/julia7hk • julia7hk.com

EDUCATION

PURDUE UNIVERSITY – West Lafayette, Indiana

B.S. in Computer Science · B.S. in Artificial Intelligence · Minor in Mathematics
Combined B.S./M.S. in Computer Science – M.S. in progress, expected May 2028

Aug 2024 – May 2027

GPA: 3.79/4.0

SKILLS

Languages: Python, TypeScript, JavaScript, C/C++, Java, SQL

Frameworks: React, Next.js, FastAPI, Flask, PyTorch, NumPy, Pandas, scikit-learn, PostgreSQL, Docker

PROFESSIONAL EXPERIENCE

Cardiovascular Imaging Research Lab | *Undergraduate Researcher, SURF Fellow, OUR Scholar* Nov 2025 – Present

- Adapted a deep-learning aortic-root segmentation model for echocardiogram videos to a **50% larger dataset** (90 → 140 patients, 5 disease types) using transfer learning, reaching **~86% overlap (Dice)** while training **~30% faster**.
- Built Python/PyTorch **inference and quality-check pipelines** to segment and validate the full video dataset, running jobs on Purdue's **GPU cluster**.
- Rebuilt an internal Python annotation tool used by a 3-person research team, **cutting labeling time ~60%** (15 → 6 min per video) and improving consistency across the dataset.
- Engineered and evaluated classification models (logistic regression, SVM) on imaging and patient data to predict disease, reaching **up to 0.98 AUC**.

Purdue Data Mine x Mead Johnson | *Undergraduate Researcher, Developer*

Aug 2025 – May 2026

- Developed PeptideX for Mead Johnson, a **7600+ peptide database** and full-stack peptide research web app (Next.js, FastAPI) for searching and analyzing, on a multidisciplinary Agile team.
- Built the multi-select filtering feature—designed the relational schema, FastAPI endpoints, and React UI.
- Extended a UniProt REST API pipeline that runs an LLM-based enrichment script to populate missing entries on precursor-protein sequences from **1300 to 2100 peptides** across the entire dataset.
- Automated local project environment setup for company researchers into a single command with a Bash script.

Purdue Department of Computer Science | *Undergraduate TA*

Jan 2026 – Present

- Led weekly problem-solving sessions and office hours for a **750+ student** core CS discrete math course, guiding students through proof techniques, logic, combinatorics, and graph theory.

PROJECTS

FalconUp - Portfolio Risk Web App (falconup.julia7hk.com)

Jun 2026 – Present

- Built a full-stack portfolio-risk web app (Next.js/FastAPI/Postgres, **21 REST endpoints**) that evaluates a portfolio from **9 technical risk indicators**, deployed with auth and multi-tenancy on a self-hosted cloud server.
- Created a GitHub Actions CI pipeline for **185 backend tests**, frontend linting and typechecking, Docker image publishing, and deploy to a cloud VM.
- Designed a structured LLM explainer that rephrases plain-English risk breakdowns behind an accuracy validator with a deterministic fallback, so every number traces back to real data.

Spotify Analytics Dashboard (github.com/julia7hk/spotify)

May 2025 – Present

- Developed and deployed a full-stack Spotify analytics dashboard (Next.js/TypeScript, Flask) with OAuth login and **17 REST endpoints**, running on a cloud VM behind nginx and Cloudflare.
- Consolidated response parsing into a normalizer layer with pytest contract tests, turning a third-party API change that broke **6 endpoints** into a **one-function fix**.

LEADERSHIP

Purdue Society of Asian Scientists and Engineers (SASE) | *Secretary* → *Junior Advisor*

Sep 2024 – Present

- Advised board leadership of the **350+ member organization**, improved the club's online presence by reviving the chapter website after **~10 years untouched**, and built a Discord bot that drove engagement for **30+ mentees**.

Team-M Taekwondo | *Athlete, Assistant Instructor & Operations Team*

Dec 2017 – Present

- National-level competitor (15 yrs, multiple medals); taught poomsae and freestyle acrobatics; rebuilt team site.