

Pranav Geet Seelam

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EDUCATION

Purdue University

B.S. in Computer Science

B.S. in Artificial Intelligence, Concentration in Machine Intelligence

Dean's List & Semester Honors: Fall 2025, Spring 2026

Relevant Coursework: Foundations of Computer Science, Programming in C, Object-Oriented Programming (Java), Linear Algebra, Multivariate Calculus, Statistics; *Data Structures & Algorithms and Computer Architecture (Fall 2026)*

West Lafayette, IN

Aug 2025 – Dec 2028

EXPERIENCE

Undergraduate Teaching Assistant, CS 180

Purdue University, Department of Computer Science

Jan 2026 – Present

West Lafayette, IN

- Instructed 60+ students in Java, recursion, and object-oriented programming through weekly labs and office hours, providing debugging support on student projects.
- Designed and led exam review session targeting the highest-error topics (recursion, inheritance), reinforcing core OOP concepts before assessments.

Relations Lead

Claude AI Builder Club, Purdue University

Sept 2025 – Dec 2025

West Lafayette, IN

- Led outreach to 200+ students and coordinated speakers, logistics, and promotion for Claude-focused workshops covering prompt engineering and LLM app development.
- Co-organized an 80+ participant club hackathon, managing project submissions and event logistics end-to-end.

PROJECTS

ClubLadders – Multi-Sport Match Tracking and Elo Ratings

clubladders.com | Next.js, React, FastAPI, PostgreSQL, Redis, scikit-learn

June 2026 – Present

- Secured pilot commitments from 4 clubs for August 2026 launch, validating demand for multi-sport match tracking, Elo leaderboards, and tournament workflows.
- Shipped a production Next.js + FastAPI platform with Google OAuth, invite-link onboarding, singles/doubles match submission, and single-elimination + round-robin tournament brackets with automatic Elo updates.
- Designed an unclaimed-player data model backed by an XOR CHECK constraint and atomic claim transaction, preserving Elo ratings and full match history when unregistered players later register.
- Trained a logistic-regression win-probability model on exported pre-match features using scikit-learn, evaluated with ROC-AUC and log loss.
- Built a pytest integration test suite running against PostgreSQL 16 in GitHub Actions CI with Alembic migrations, covering match submission, Elo update, and tournament progression paths.

Gatekeeper – API Gateway

gatekeeper-ccgq.onrender.com | github.com/Pranavseelam06/gatekeeper | Python, FastAPI, PostgreSQL, Redis, Docker, AWS EC2, Nginx

May 2026 – July 2026

- Engineered a FastAPI API gateway with API-key authentication, Redis-cached key lookups, token-bucket rate limiting, upstream request forwarding, and structured PostgreSQL request logging.
- Load-tested the upstream proxy path with k6 at 100 concurrent users, sustaining 180 requests/sec with 99.87% HTTP 200 responses and 735ms p95 latency after tuning HTTP client reuse and database connection pooling.
- Containerized with Docker and deployed to Ubuntu on AWS EC2 behind an Nginx reverse proxy, with environment-variable-based Neon PostgreSQL configuration and Alembic migrations.

K-12 LMS Prototype

pranavseelam06.github.io/lms-prototype | Python, FastAPI, SQLAlchemy, PostgreSQL, Gemini API

Mar 2026 – June 2026

- Developed a FastAPI + PostgreSQL LMS prototype with role-based authentication and normalized data models for teachers, students, assignments, and submissions.
- Integrated the Gemini API to generate draft grading feedback per submission, persisting model outputs alongside assignment records for teacher review.

TECHNICAL SKILLS

Languages: Python, Java, C, TypeScript, SQL, HTML/CSS

Backend & Web: FastAPI, Next.js, React, REST API design, SQLAlchemy, Alembic, OAuth

Databases & Infra: PostgreSQL, SQLite, Redis, Docker, AWS EC2, Nginx, Neon

Testing & DevOps: pytest (unit + integration), GitHub Actions CI/CD, k6 load testing, Git, Linux, SSH, Render, Vercel

ML & Data: scikit-learn, pandas, logistic regression, feature engineering, ROC-AUC, log loss, model evaluation

Concepts: Object-oriented programming, data modeling, REST, authentication, rate limiting, caching