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EDUCATION

Purdue University, West Lafayette, IN
Bachelor of Science in Computer Science and Data Science

Expected Graduation: May 2025
GPA: 3.99/4.00

AWS Certified Cloud Practitioner

Validation Number: KRHKNR1C01B4QG5N

WORK EXPERIENCE

Algorithm Analysis Teaching Assistant @ Purdue University, West Lafayette, IN

Aug. 2023 – Present

- Assisting professors Elena Grigorescu and Alex Psomas to run CS 38100, Intro to Algorithm Analysis, a course of 304 students.
- Corroborating my understanding of algorithmic theory and applications by producing quiz content and grading homework.

Software Engineering Intern @ Deloitte, New York, NY

Jun. 2023 – Aug. 2023

- Worked within an agile scrum framework to build client-facing software for Thomson Reuters' Westlaw Edge and Practical Law.
- Implemented demo sign-up user interfaces and customer interaction analytics using Adobe HTL (SSR), React, and Redux.
- Identified and fixed potential form validation issues before production and ensured testing coverage via React Testing Library.

Web Development Instructor @ Purdue University, West Lafayette, IN

Aug. 2022 – Dec. 2022

- Generated tangible value for Purdue University and 70 of its students by lecturing for CS 39000: web application development.
- Cultivated my technical communication skills by breaking down technical concepts to a beginner's level 4-6 hours per week.
- Covered the practice and underlying concepts behind HTML, CSS, JavaScript, React, Express.js, and MongoDB.

Software Engineering Intern @ Rogo, Remington, IN

May 2022 – Aug. 2022

- Rebuilt and refined core operations React app responsible for planning, creating, and tracking robotic soil sampling missions.
- Migrated backend from AirTable to serverless Express-GraphQL on AWS Lambda and DynamoDB, improving data centralization.
- Provided data integrity for on-site sample collection via RxDB client-server data replication and custom file backup mechanisms.

PROJECTS

JavaScript Framework, Purdue University

May 2023 – Present

- Developing a JavaScript framework for multi-page web apps with CSR and SSG with Node.js, TypeScript, Rollup.js, and Nodemon.
- Outperforming popular frontend frameworks in the js-framework-benchmark with mean performance scores 12% faster than Svelte v4, 18% faster than Vue v3, 55% faster than React v18, and only 5% slower than vanilla JavaScript.

Chess AI, Purdue University

Jan. 2021 – Present

- Built a chess engine in C++ of ~2100 bullet rating on lichess.org using bitwise algorithms, magic bitboards, mini-max with alpha-beta pruning, null move pruning, various move ordering heuristics, Zobrist hashing, two-tier caching for transpositions, etc.
- Constructing a neural network from scratch for position evaluation with Python and NumPy to produce weights for an NNUE.

Townie, CS 30700, Purdue University

Jan. 2023 – May 2023

- Developed a web game with Svelte, Django, and ArangoDB for users to explore new destinations in a competitive scavenger hunt.
- Designed cost-effective and scalable architecture with AWS (Lambda, API Gateway: WebSocket API, EC2) and Redis.
- Integrated JWT auth, Twilio SMS 2FA & notifications, Mapbox maps, and Stripe subscription payments for premium mode.

Drawtic Phone, BoilerMake Hackathon Finalist, Purdue University

Jan. 2023 – Jan. 2023

- Invented a web game like Gartic Phone but with mid-air drawing via Google MediaPipe hand motion detection CV model.
- Constructed Flask pub-sub system to relay live lobby updates and used Redis and AWS S3 to store game session data and images.

HSE Apps Suite, Code for Change, HSE High School

Nov. 2020 – May 2021

- Collaborated with school admin to modernize course selection and information access, impacting 800+ students and 80+ faculty.
- Built full-stack applications with React, Express.js, Node.js, MongoDB, Netlify, GCP App Engine, and MongoDB Atlas.

SKILLS

Languages Proficient with JavaScript, TypeScript, HTML, CSS, C/C++. Intermediate with Rust, Python, Java, SQL, Scala, WASM.

Frameworks Proficient with React, Svelte, Express.js, Django. Intermediate with React Native, Angular, Flask, FastAPI.

Other Intermediate with Git, AWS (API Gateway, S3, Lambda, DynamoDB, EC2), Node.js, ArangoDB, MongoDB, MySQL.