

Experience

Drop of Wisdom Inc. | [Contract Full-Stack Engineer](#) July 2023 - November 2023

- Spearheaded the end-to-end development of a self-improvement and learning platform, demonstrating exceptional proficiency in full-stack development.
- Leveraged a tech stack comprising TypeScript, React, NextJS, Node.js, and PostgreSQL to architect and construct the platform's robust infrastructure.
- Played a pivotal role in the platform's impressive growth, resulting in a rapid user base expansion to over 1000 accounts within a month of its launch.
- Drove innovation by seamlessly integrating the OpenAI GPT-4 API to enhance and enrich the platform's content, elevating user engagement and interactivity.
- Streamlined user experience by seamlessly integrating the Google Books API, allowing for the display of comprehensive book information and visually appealing thumbnails.
- Empowered non-technical administrators through the seamless integration of the Thinkific API, facilitating no-code course creation and administration.

Ivis Security International | [Contract Full-Stack Engineer](#) March 2022 - September 2023

- Developed video processing edge-computing application for physical security monitoring platform.
- Evaluated business requirements, and designed a unique solution to meet the customers needs.
- The customer needed a video solution that would be able to display many camera video feeds in a single browser window session with good browser performance. Existing vendor solution only allowed for 4 cameras to be displayed, and video performance over the WAN was poor.
- The customer needed a solution that enabled edge-to-cloud video streaming, alerting, configuration and remote-control of enterprise security cameras without customer network configurations, such as port-forwarding or VPN). Existing vendor solution required port-forwarding or VPN, and performed poorly over WAN connections.
- Developed a solution built on WebRTC to create bi-directional communication channels to an edge device for camera control and streaming. The resulting product was more financially sustainable, allowed for simpler installs for customers through camera auto-discover with no requirements for network configuration, and met the agreed 0-2s global latency requirement with 20+ cameras in a single browser window.
- Integrated pan, tilt, zoom, audio playback, light control, focus control, and camera source resolution and framerate adjustment functionalities into the system, enhancing the system's capabilities and user control.
- Engineered a cost-effective video archival and review system, fulfilling business requirements, by leveraging AWS S3 presigned URLs and on-demand HLS manifest generation, thereby replacing the need for DRM. This strategic approach resulted in significant savings on cloud infrastructure costs.

Hello & Co. | [Design and Development Consulting](#) December 2022 - May 2023

Campus Cash App

- Made full stack updates to admin dashboard (Angular 5), API (Java Spring), and mobile application (Angular 7/Ionic) to support image uploads of different aspect ratio.
- Migrated and recovered production application to new AWS Beanstalk Platform following a production crash caused by updates made prior to the contract.

Supreme Doors

- Redesigned and developed a new website for Supreme Doors using NextJS, React, and TailwindCSS to improve the user experience.
- Developed a custom API to integrate with the company's CRM system, allowing for the creation of new leads and the retrieval of existing leads.

BiteHeist

- Designed a new landing page and device mocks for BiteHeist using Figma, to increase the conversion rate.

Particle Space | [Software Engineer](#) April 2021 – September 2022

- Led the development of four new Next.js web applications, handling both front-end interfaces and API routes, while collaborating with a team focused on a PHP Falcon userdata API. This cross-functional collaboration significantly expanded the company's product portfolio and contributed to its growth.
- Mentored multiple interns, facilitating weekly learning sessions, conducting pair programming exercises, reviewing and merging pull requests, and assigning tasks tailored to each intern's abilities, contributing to their professional growth and productivity.
- Operated within an Agile Scrum environment, actively participating in sprint planning, identifying and reporting bugs, initiating feature requests, and managing project boards to ensure efficient workflow and timely delivery of software solutions.
- Championed the adoption of stricter code quality standards by improving project structure, pushing React best practices, and enforcing DRY pre-commit checks, leading to enhanced workflow efficiency and overall codebase quality.
- Demonstrated proficiency in a wide range of development tools including React, NextJS, Redux, ReduxSaga, Node.js, TypeScript, Jest, REST, Puppeteer, Docker, MySQL, PHP, and PostgreSQL, driving the successful completion of numerous projects.

University of Kansas | [Undergraduate Researcher](#) March 2019 - September 2020

- Engineered SWARM, a set of fixed-wing UAV navigational algorithms, designed for real-time distributed decision-making, enhancing the efficiency and accuracy of UAV navigation.
- Conducted comprehensive research on flock/sub-flock identification, exploring various 3D clustering methods such as α -hull, convex-hull, and 3D-KMeans, contributing to advancements in UAV swarm technology.
- Developed a custom ground control application as a robust alternative to QGroundControl. This application, equipped with a MAVLINK protocol receiver and procedurally generated InfluxDB containers, improved data retention and facilitated seamless uploads to a central database.

Harlan Global Manufacturing | [Engineering Intern](#) February 2019 - March 2019

- 3D Modeling and schematic drawing in Creo for engine assemblies, drive axles, steering orbits, master cylinder, steering hydraulics etc.

Publications

Bio-Inspired Predator-Prey Large Spacial Search Path Planning | [IEEE](#) | March 14th 2020

- Collaborative authorship with graduate colleagues under the advice of Dr. Shawn Keshmiri at the KU Flight Research Lab.
- Explores dynamic and responsive navigation for UASs as applied to a variety of mission scenarios - Derives from wildlife-inspired meta-heuristic optimization algorithms to navigate independent of any predefined information.

Skills

Programming Languages

- TypeScript (React, NextJS, Node.js, Apollo)
- JavaScript (Web, DOM, Node.js)
- Rust
- Python (Django, Flask)
- Shell
- C++
- PHP (Phalcon)
- Java (Spring Boot)

Web Technologies

- HTML
- CSS (SASS)
- GraphQL
- REST
- WebRTC

Databases

- MySQL
- PostgreSQL
- InfluxDB

Specialized Skills

- Media Streaming
- Linux Embedded Systems
- Kalman Filter
- Guidance Control and Navigation

Education

University of Kansas | (Cumulative GPA: 3.4)

University of Missouri Kansas City | (Cumulative GPA: 3.4)

Notable Coursework

- Honors Software Engineering Courses
- Programming Language Paradigms
- Theory of Computing
- Stochastic Adaptive Control Theory (Graduate)
- Discrete Structures
- Honors Discrete Mathematics
- Physics I-II
- Honors Calculus I-III
- Calculus Based Statistics
- Linear Algebra