

# Gavin Zhang

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Software engineer with over a year of experience building scalable, full-stack applications and data-intensive tools in collaborative, agile environments. Passionate about object-oriented design and solving complex problems with simple, maintainable solutions. Eager to contribute to a highly collaborative team and build innovative tools that impact millions of users.

## WORK EXPERIENCES

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- **Freelance Web Developer** Remote  
*Full-Stack Developer* June 2025 – Present
  - **Django Web Application:** Developed a responsive restaurant web application using the Django framework and a PostgreSQL database, featuring menu management and a reservation system.
  - **AI-Powered Features:** Integrated the OpenAI API to build AI-powered features for dynamic content generation and personalized meal recommendations.
- **Flare Therapeutics, Series B Startup** Cambridge, MA  
*Software Engineer Intern (Data Platform)* Jan. 2024 – Oct. 2024
  - **Backend Optimization:** Reduced AWS costs by \$5000 annually through parallel processing implementation using Python multiprocessing and optimized shell pipelines.
  - **Batch Data Processing:** Engineered an automated ETL pipeline using Python to process over 300GB of genomics data nightly, improving data transformation efficiency by 33% and supporting big data initiatives.
  - **DevOps & Code Quality:** Established comprehensive development workflow including automated testing, linting, documentation generation, and CI/CD practices, improving team productivity by 30%.
  - **Research & Collaboration:** Second authored research poster on core drug compound, demonstrating ability to work cross-functionally between engineering and scientific teams.
- **Boston Children's Hospital × BU Spark!** Boston, MA  
*Software Engineer* Sep. 2023 – Dec. 2023
  - **Full-Stack Development:** Built clinical decision-making application using React/TypeScript frontend with Node.js/Express backend, enabling ALS patients to navigate treatment pathways through an intuitive web interface.
  - **Database & State Management:** Implemented persistent user sessions using MongoDB and Strapi CMS, resolving session-loss bugs and improving returning user engagement by 20%.
  - **Decision-Tree API:** API Development: Designed and deployed scalable RESTful API with decision-tree logic for clinical workflows, handling complex patient data routing and treatment recommendations.
  - **Agile Development & Team Leadership:** Led 3-engineer team as Scrum Master, maintaining consistent 2-week sprint cycles with 95% story completion rate and successful project delivery that secured continued partnership funding.
- **Flare Therapeutics, Series B Startup** Cambridge, MA  
*Software Engineer Intern (Data Platform)* Jun. 2023 – Sep. 2023,
  - **URL Shortener:** Developed a full-stack URL shortening service using Node.js and Express.js for the RESTful API, and PostgreSQL for scalable data storage. Implemented a custom algorithm to generate unique, collision-resistant short URLs and managed routing for seamless redirection, demonstrating proficiency database design, and API creation.
  - **Research & Collaboration:** Second authored research poster on core drug compound, demonstrating ability to work cross-functionally between engineering and scientific teams.

## SKILLS

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- **Languages:** Python, Java, Javascript, Typescript, C++, R, SQL, Kotlin, HTML, CSS
- **Frameworks:** GraphQL, PostgreSQL, Heroku, Vercel, Django, Next.js, Express, Vite, React, Node.js
- **Tools:** Linux, AWS, Azure, Git, Docker, MongoDB

## EDUCATION

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- **Boston University** Boston, MA  
*Bachelor of Arts: Computer Science, Minor in Entrepreneurship* Jan. 2025
  - **Courses:** Computer Systems (C/C++), Data Structures & Algorithms, Database Systems (SQL, NoSQL), Foundations of Data Science, Artificial Intelligence, Full-Stack Software Engineering (Object-Oriented Design)

## ACADEMIC PROJECTS

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- **Real-Estate Search Platform (Zillow Clone):**
  - **Search Platform:** Built a full-stack rental-listing site with Next.js & React, integrating Hygraph, GraphQL, CMS and Google Maps to deliver real-time search across 30+ properties.
  - **Interactive Mapping:** Embedded @react-google-maps/api to plot dynamic markers; reduced user location-lookup time from 10 s to 1 s by caching coordinates and initializing maps at 60 FPS.
- **Web Data Extraction:**
  - **Extraction:** Built a Node.js scraper with Axios + Cheerio to crawl news pages and parse h2 headline text / links, generating clean JSON in 3 s and cutting manual copy-paste research time from 2 h to 5 min (-96 %).
  - **Version Control:** Leveraged npm, package-lock, and Git to pin modules, prevent drift, and enable one-command deployments; improved onboarding speed for new contributors by 80 %.