Karanvir Singh (302)-513-6613 • ✓ kasingh@udel.edu • LinkedIn

Education: University of Delaware

University of Delaware - Bachelor of Computer Science

Expected Graduation: May 2026

Related Coursework: Data Structures, Machine Organization and Assembly Language, Object Oriented Programming, Introduction to Algorithms

Work Experience

Headstarter AI | Software Engineer Fellowship

Jul 2024 - Present

- Back-End Web Development: Engineered and deployed over 5 AI applications and APIs, leveraging Next.js for
 server-side rendering, OpenAI for advanced natural language processing, and Pinecone for scalable vector database
 management. Integrated Stripe API for seamless payment processing, impacting over 1,000 users with enhanced,
 data-driven functionalities.
- Software Development and Object-Oriented Programming: Directed full-cycle project development using MVC (Model-View-Controller) architecture for creating maintainable and efficient codebases. Implemented OOP principles to ensure robustness and scalability in software solutions.
- **Project Management and Leadership:** Led a team of 4+ engineering fellows in the collaborative design and development of software solutions, transitioning projects from design phase to deployment, and applying best practices in software engineering.
- Mentorship and Best Practices: Received advanced coaching on Agile methodologies, Continuous Integration/Continuous Deployment (CI/CD) pipelines, Git version control, and microservices architecture. Enhanced team capabilities by incorporating industry-leading practices and tools in the development process.

JP Morgan Chase & Co | Software Engineering Virtual Experience | Python, React

- Financial Data Visualization: Developed data visualization tools to analyze and display financial trends, leveraging Python for data processing and React for building interactive front-end interfaces.
- Real-Time Data Processing: Implemented algorithms for real-time data processing, gaining experience with financial datasets and working in fast-paced, high-stakes environments.
- Collaborative Development: Simulated a professional software engineering role by working on tasks reflecting industry
 practices, including code reviews and team-based problem-solving.

Projects

Hackathon | Community Service Finder Website | HTML, CSS, JavaScript, Web3Forms API | Project Link

- Volunteer Opportunity Platform: Developed a website to connect users with local volunteer opportunities in Delaware, using HTML for structure, CSS for styling, and JavaScript for dynamic functionality.
- Responsive User Interface with Interactive Elements: Designed a front-end using CSS Flexbox layouts and tabbed navigation. Implemented interactive elements like hover effects, image zoom, and smooth transitions.
- Integrated Web3Forms API for Data Submission: Utilized the Web3Forms API to handle form submissions from organizations, enabling secure submission of new volunteer opportunities.
- **Dynamic Data Handling with JavaScript:** Integrated a structured data model to manage volunteer opportunities, dynamically displaying event details based on user interactions.

Personal Portfolio | AWS, HTML, CSS, JavaScript | Project Link

- Cloud Computing/Cloud Infrastructure & Hosting: Deployed the website using an AWS EC2 instance for reliable, scalable hosting, and integrated an AWS S3 Bucket to efficiently store and serve static assets, ensuring high availability and rapid content delivery.
- Advanced Layouts and Responsive Styling: Designed a visually appealing portfolio site featuring advanced CSS grid layouts and responsive media queries for optimal viewing across devices.
- Integrated Email Functionality: Utilized EmailJS API for robust email integration, allowing users to submit contact forms and messages with real-time feedback.
- **Performance Optimization:** Applied best practices in **JavaScript** and **CSS** to optimize performance and loading times, leveraging efficient code structuring and asynchronous processing.

Skills

- Languages: Python, Java, C, C++, HTML, CSS, JavaScript, TypeScript
- Technologies: Git, Visual Studio Code, IntelliJ, CLion, React, Firebase, Next.js, Redux, AWS Services
- Core Skills: Back-End Web Development, Object-Oriented Programming, Data Structures and Algorithms, API Implementation