NIRMAL HEGDE

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EDUCATION

University of Waterloo – *Candidate for BASc: Systems Design Engineering*   Sep 2020 - May 2025
GPA: 3.8, Systems Design Engineering Class Representative (top 2%), H.K Kesavan Legacy Scholarship (top 1%)
<u>Relevant Courses:</u> *Object Oriented Programming (C++), Digital Systems (C), Data Structures & Algorithms (C++)*

EXPERIENCE

Software Engineering Intern – *Carta*   May 2022 – Present
- Developed REST APIs using **Django** to gather registration data from mobile app **deep links**, reducing number of API calls by 25% when creating new accounts
- Coordinated with cross-functional teams to create vulnerability fixes in **Python**, removing 100% of known security issues during user onboarding
- Assembled **PostgreSQL** schemas to store backup emails during account creation, reducing registration steps by 7%
- Deployed 12 **Kubernetes** clusters for use during product demos, improving customer satisfaction by 16%

Project Developer – *UW Blueprint*   Sep 2021 – Aug 2022
- Established no-code development toolkit in **Next** for NPO with 65,000+ users, allowing admin to create interactive content using various media sources, improving audience retention by 37%
- Automated waitlist flow for 25+ camps by generating emails with registration links for waitlisted campers when a spot is open using **Node, JWT**, **Express**, and **MongoDB**, reducing manual interaction by 43%
- Constructed marketplace via **Stripe API** and session tokens to handle $7000+ in transactions securely

Software Developer Intern – *Shoplogix*   Sep 2021 – Dec 2021
- Pioneered the creation of **gamification** tools, allowing factory admin to set objectives and rewards for workers via **Node, React, MongoDB**, and **Express,** improving user retention by 13%
- Composed repository classes using **C# .NET** and foreign keys to migrate 30+ TB of **XML** factory data to normalized **PostgreSQL** tables, reducing memory cost by 27%
- Innovated upon **Internet of Things** services in **C# .NET** to analyze production signals for 100+ factories

Software Engineering Intern – *MCAP*   Jan 2021 – Apr 2021
- Built 10+ **REST microservices** as part of a distributed system to send automated emails and perform financial calculations via **Express**, **RabbitMQ**, and **MongoDB**, handling 25,000+ customers
- Defined **custom hooks** in **Vue** to improve code modularity, reducing build time by 12%
- Created testing suites in **Jest** to establish 95% code testing coverage on 20+ services

PROJECTS

Systems Design Engineering (SYDE) 2025 Class Profile ⓞ 🔗
- Spearheaded the creation of an application with 4,600+ monthly users to display analyzed data from a cohort of 115 SYDE students
- Directed the development of database functionality via **Firebase** to connect analytics with custom generic **React** graph components, resulting in a 92% increase in development efficiency.
- Determined results via data analysis using box plots, bar graphs, etc. in **Pandas**, **Seaborn**, and **NumPy**

SKILLS

Languages: TypeScript, JavaScript, Python, C#, SQL, C++, GraphQL, HTML, CSS/SASS
Frameworks: Node, Django, .NET, Express, React, Redux, Vue, Next, Jest, Pandas, NumPy
Tools: Git, PostgreSQL, MongoDB, Kubernetes, Docker, RabbitMQ, Firebase, Apollo, Azure