Kush Bhagat

Computer Science at University of Waterloo

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Skills

Languages: C++, C, Python, TypeScript, C#, SQL, Java, JavaScript, HTML/CSS
Technologies: Node.js, Angular, ASP.NET Core, Django, React, WPF, TensorFlow, Unity, OpenCV, Git

Work Experience

Web Developer | Equitable Life of Canada — Sept 2020 – Dec 2020

- Created a client-side caching service that intercepts high-usage data, reducing load to backend server by **20%**
- Integrated MVC to build a **RESTful API** in **ASP.NET Core** that manages CRUD requests for **SQL Server** database
- Streamlined the company's deployment process by developing an approval portal web application that manages all project deployments through a subscription type structure
- Built an **Angular** web app to manage the connections of **10,000+** applications, servers, and environments

Software Developer | Rocscience — Jan 2020 – Apr 2020

- Developed a system controller within the **WPF** framework to manage **100%** of the program's UI elements
- Created application-wide themes and a dynamic theme manager to handle **3D** models, maps, and environments, while synchronously allowing creation and control of custom themes
- Conceived and built a tool in **C#** to provide instant access to app documents, cutting search time by **99%**

Projects

Road Mixify | Angular, Node.js, Spotify API — kushbhag.github.io/RoadMixify -- /RoadMixify

- A web app allowing Spotify users to create the perfect road-trip playlists based on trip duration and user-selected artists, albums, and tracks

Image Repo | Node.js, Angular, MongoDB — kushbhag.github.io/ImageRepo -- /ImageRepository

- Developed an image repository web application for users to view and upload private/public images
- Built an **API** to handle user authentication and securely upload and delete images with JSON web tokens

Connect 4 AI | JavaScript — kushbhag.github.io/Connect4Web -- /Connect4Web

- Created a search tree using a depth-limited **minimax algorithm** to parse through **16,800+** moves every turn
- Optimized search by **40%** by using transposition tables and alpha-beta pruning

WLP4 Compiler | C++, MIPS — /WLP4Compiler

- Implemented scanning, parsing, context sensitive analysis, and code generation of WLP4 code (subset of C++)
- Ranked **3rd** amongst 300+ students in creating the most optimized code generating compiler

Computer Vision Traffic Signs | Python, TensorFlow, scikit learn — /ComputerVision

- Built using neural network layers to recognize 42 different traffic signs, with potential use in self-driving cars

Education

University of Waterloo | Bachelor of Computer Science, Co-op — 2018 - 2023

- **Relevant Courses:** Data structures and Algorithms, Object-Oriented Design, Database Management
- **Notable Achievements:** President's Gold Scholarship ($20,000), Semi-finalist in New Venture Case Competition, Semi-finalist in Starbucks Case Competition