

# Kush Bhagat

Computer Science at University of Waterloo

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github.com/kushbhagat 🐙

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## Skills

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**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

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**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 **30%**
- Streamlined the company's deployment process by integrating MVC in an **ASP.NET Core** web app that authorizes all project deployments within all hosted environments
- Enhanced application and project management by developing a **RESTful API** in **ASP.NET Core** that contains endpoints for managing project information
- 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

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**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 **3<sup>rd</sup>** 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

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**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