Rohan Shetty

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{} Languages

| C# | C++ | C | Java | Python | JavaScript | SQL | Assembly | HTML/CSS |

🧠 Skills

| Node.js | Unity | Unreal Engine | WPF | PostgreSQL | React | Git | Perforce |

| Docker |

🎓 Education

University of Waterloo   2021 - 2026 | Waterloo, Canada
Bachelor of Software Engineering
- Recipient of the B.P. Dammizio Entrance Scholarship, awarded to outstanding applicants
- Relevant Courses: Data Structures and Algorithms (C++), Compilers (C++, Assembly), Computer Architecture (RISC-V instruction set), Database Management (SQL)
- Extracurriculars: Engineering Ambassador, Animusic Ensembles, Tennis Club, Varsity eSports Coach

💼 Relevant Experience

Undergraduate Research Assistant   Jan 2024 - present | Waterloo, Canada
*University of Waterloo, supervised by Dr. Werner Dietl*
- Collaborated with Dr. Werner Dietl on developing **JSpecify** conformance test suites for the EISOP **Java** checker framework
- Improved reliability of the Nullness Checker to guarantee no NullPointerException for any annotated Java program
- Aimed at reducing programmer errors by enhancing code analysis and adherence to specifications

Full Stack Developer Intern   Sep 2023 - present
Besty AI ↗   New York City, USA
- Integrated **GPT-4** into powerful tools for rental property hosts, such as orphan gap revenue, which earns users about $300/month in extra income
- Independently created Besty's **analytics dashboard** for product launch and leveraged various LLMs such as **LLAMA-2** to surface important requests from guest chats
- Automated the inquiry winback system using **PostgreSQL,** allowing users to retain **20%** more clients on average using scheduled parameterized prompts

Software Developer Intern (Dead by Daylight)   Jan 2023 - Apr 2023 | Toronto, Canada
Behaviour Interactive ↗
- **Engineered** new gameplay features and characters in **Unreal Engine** for Behaviour's hit game **"Dead by Daylight" ↗**, a title with over **50 thousand** monthly active users
- **Spearheaded** the development of Dead by Daylight's **7th Anniversary Update**, collaborating with a team of over **20** engineers and designers to perfect gameplay elements within strict release deadlines
- Created a unique **object highlighting system** for far greater rendering customization over legacy code
- Leveraged Unreal's **network replication system** to ensure stability and fluid gameplay in a multiplayer setting with client conditions of up to **200ms latency** and **2% packet loss**

Game Programmer Intern   May 2022 – Aug 2022
Eden Industries ⍚   Vancouver, Canada

- **Designed and implemented** new features for creature-collecting RPG **"Nights of the Djinn"** using homegrown **C++** game engine, including battle item mechanics and NPC behaviour
- **Revised and refined code** to meet employer standards and created **modular, extensible scripts** with **SOLID** principles
- **Independently** created a puzzle minigame within Nights of the Djinn using the **Agile** development cycle and **CI/CD** to continuously improve, test and deploy code
- Employed Microsoft **Visual Studio** debugging and profiling tools to eliminate issues and **optimized** memory usage by up to **20%**, allowing scenes with over **2000 game objects** to run at **60fps**

📂 Projects

HandRemote ⍚

- Independently created a **Python**-based desktop application that uses **OpenCV** hand tracking to control the cursor from webcam input
- Integrated the **Windows Touch API** to allow a single pinch gesture to control left-clicking, right-clicking, and dragging
- Implemented **moving average** and **linear interpolation** to reduce jitter and enhance consistency of output

Wallpaper Wizard

- Independently developed a **WPF** app using **C#** to dynamically change the user's wallpaper based on the weather and time of day
- Polled **REST APIs** and managed wallpapers using Windows Registry Keys and custom **JSON** theme files
- Over 2000 downloads on itch.io

Tuesday Night Tempo ⍚
Winner of Hack the North 2021

- Developed a **Unity** rhythm game in **C#** that can be played with an acoustic drumset
- Designed and wrote an algorithm to convert Drum MIDI files to in-game indicators
- Any standard synthesizer file can be played and tracked via **Arduino** simulated keyboard inputs from drums