

Sahil Saini

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Education

Master of Science in Computing, September 2025 – April 2026
Queen's University, Kingston, Ontario

- Cumulative GPA: 4.1/4.3

BSc. Software Engineering, September 2017 – May 2022
University of New Brunswick, Fredericton, New Brunswick

- Cumulative GPA: 3.6/4.3
- Dean's List 2021, 2022
- IEEE NB Section Prize, April 2022: Awarded by University to the best Senior Capstone Design Project displaying outstanding technical merit.

High School and IB Diploma, June 2016
St. Margaret School, Delhi, India

- Honors Student – 89% Average

Work Experience

Kognitiv Spark, Fredericton, New Brunswick
Junior Developer, June 2022 – Present

- Designed and maintained responsive web applications, ensuring optimal user experience across devices.
- Architected and implemented RESTful APIs, seamlessly integrating them with backend systems to support IoT services.
- Leveraged WebRTC technology and Janus solutions to enable robust real-time audio and video communication features.
- Conducted in-depth research on cloud services to enhance product inspection and maintenance processes.
- Utilized Docker containerization to develop and deploy scalable on-premises solutions.
- Implemented real-time communication systems using Azure technologies, including Change Feed and SignalR service.
- Worked with cloud vision models to detect and identify objects.
- Built an AI field-service assistant that answers technician questions from equipment manuals, matching real photos of parts to the right manual page for accurate, source-grounded answers.

Modelar, Fredericton, New Brunswick
iOS Developer, May 2021 – August 2021

- Developed an iOS application leveraging LIDAR sensor technology to perform real-time 3D scans.
- Researched, selected, and integrated product analytics tools to enhance application performance monitoring and user behaviour insights.
- Redesigned and optimized the 3D mesh viewer using SceneKit and SpriteKit frameworks, improving rendering performance and user interaction.
- Implemented new features across both frontend and backend systems using Swift, expanding application functionality and user capabilities.
- Conducted thorough debugging processes to identify and resolve application issues, enhancing overall stability and user experience.

Serenova, Fredericton, New Brunswick
Software Engineer, January 2020 – August 2020

- Implemented comprehensive AWS (Amazon Web Services) integrations across multiple products, optimizing cloud infrastructure and scalability.
- Resolved complex API request issues using Clojure and JavaScript, enhancing system reliability and performance.
- Developed and implemented software modifications based on precise design specifications, ensuring alignment with project requirements.
- Designed and executed robust unit tests utilizing the Jest framework, improving code quality and reducing defects.

- Demonstrated strong autonomy in task execution while fostering collaborative relationships, contributing to a positive and productive team environment.

Mach85 Inc., Fredericton, New Brunswick

Junior Software Developer, January 2019 – April 2019

- Developed and maintained sophisticated image correlation software for Digital Image Correlation (DIC) analysis, enhancing measurement accuracy in materials testing.
- Utilized Java to resolve complex software issues, optimizing performance and ensuring product readiness for market release.
- Researched implementing robust license key systems for secure product distribution, focusing on encryption methodologies to protect intellectual property.

Computing Skills

Languages: Java, JavaScript, C++, C, C#, SQL, HTML, CSS, MATLAB, Swift, Clojure, VHDL, Julia, Python

Frameworks: JavaFX, ReactJS, Jest, React Bootstrap, Express, Karate, Blazor, WebRTC, SignalR

Tools: Git, Postman, AWS, Android Studio, MongoDB, Azure, Docker, Janus

Projects

Neurohands

Developer, August 2024 – Present

- Build an application to recognize American Sign Language (ASL) hand gestures in real time.
- Implemented a data collection pipeline with landmark metadata embedded in each frame for Convolutional Neural Network (CNN) training.
- Integrated hands-free control for data collection using voice input.
- [Github](#)

Mars Mission Trajectory Planner

Developer, January 2026 – April 2026

- Built a system that finds fuel-efficient flight paths from Earth to Mars using evolutionary algorithms.
- Balanced two competing goals — minimize fuel burn and travel time — to give mission planners a range of best-tradeoff options.
- Implemented and compared 4 optimization approaches (Simple EA, NSGA-II, MAP-Elites, NSLC) to find which finds better trajectories.
- [Github](#)

PathFinder RL

Developer, January 2026 – April 2026

- Built and compared 4 different AI decision-making algorithms (MCTS, DQN, PPO, A2C) on a grid-navigation task to measure which learns fastest and most reliably.
- Tinkered with different algorithm configurations to find the best performing one.
- Optimized algorithms with different learning rates and loss functions.
- [Github](#)

Production Ready Web Application

Developer, September 2021 – April 2022

- Collaborated within a five-person development team to design and deliver a production-ready web application using JavaScript, HTML, and CSS.
- Integrated an advanced image processing model to detect and filter explicit content, improving platform safety and user experience.
- Developed comprehensive unit tests using the Jest framework, ensuring the reliability and performance of individual application components.
- [Github](#)