

# Gurdarshan Singh

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## Technical Skills

**Programming & Scripting Languages:** C++, Java, Python, C, JavaScript, SQL, HTML, Kotlin

**Web Development:** HTML, CSS, JavaScript, TypeScript, React.js, Redux, Angular.js, jQuery, Bootstrap, Material-UI, Node.js, Express.js, RESTful API, Flask, Fast API, DOM, JSON

**Database Technologies:** SQL, MySQL, MongoDB, PostgreSQL, NoSQL, Database Management

**Cloud Services:** AWS (Lambda, Kendra, Bedrock, S3, SageMaker, EC2, IAM, OpenSearch, CloudWatch, CloudFormation), Streamlit

**DevOps & Tools:** Terraform, Docker, Git, GitHub, Heroku, Apache Airflow, Postman, Mailchimp, Confluence, Jira, Version Control, Linux, CI/CD

**Computer Science Concepts:** Artificial Intelligence, Machine Learning, Object-Oriented Programming, DBMS, Operating System, Virtual Memory, Cache Memory, Encryption, Decryption, Agile Methodology, Full-Stack, Networking, Cloud technologies, Prototypes, SDLC

## Relevant Work Experience

### MPAC

May 2024 – Dec 2024

*Junior Systems Developer (React, AWS, Terraform)*

*Ontario, Canada*

- Built reusable frontend components using **React**, **Material-UI**, **TypeScript**, and **Redux**, replacing a legacy **Angular** app and improving performance by **30%**.
- Maintained and optimized **20+ Apache Airflow DAGs**, resolving pipeline errors and increasing data processing efficiency by **25%**.
- Automated internal processes with **Python** scripts and built a scalable **chatbot** using **AWS Lambda**, **Kendra**, **Bedrock**, **SageMaker**, **Terraform**, and **S3**.

### University of Ottawa

Sept 2023 – Apr 2025

*Teaching Assistant (Web Development, Computer Architecture)*

*Ottawa, Canada*

- Instructed and mentored students in technologies like **HTML**, **CSS**, **JavaScript**, **Bootstrap**, **jQuery**, **Node.js**, **React**, **Angular**, and **Spring Boot**.
- Delivered lectures and hands-on sessions on **Computer Architecture** and **Computer Graphics**, enhancing student comprehension of key theoretical and practical concepts.

## Education

### University of Ottawa

Sept 2023 - June 2025

*Master of Computer Science (Grade: A+)*

*Ontario, CA*

### Guru Gobind Singh Indraprastha University (GGSIPU)

Jul 2019 - Jul 2023

*Bachelor of Technology in Information Technology (CGPA: 9.36)*

*Delhi, India*

## Projects

### SymboleoGPT | *Java, Python, ChatGPT-4.0 API, Eclipse, CSV, LLM*

- Built an end-to-end automated system that generates and refines Symboleo contracts using **ChatGPT-4.0**, requiring only a single button click in the **Eclipse** IDE.
- Developed a **Java** module to extract compiler errors, which are parsed and forwarded to a **Python** engine that crafts hybrid prompts and interacts with the LLM for iterative improvements.
- Integrated a second one-click feature to auto-generate detailed **CSV** reports for statistical analysis, summarizing error types, frequencies, and line numbers.

### Secrets | *HTML, CSS, JavaScript, Bootstrap, jQuery, Node.js*

- Developed a secure, encrypted messaging web app with Google OAuth2 authentication using **Passport** and **Passport-Local-Mongoose**, ensuring secure user access.
- Stored user "secrets" in encrypted MongoDB profiles with enforced access restrictions to enhance privacy and security.

### Keeper | *HTML, CSS, JavaScript, React.js, Node.js, MongoDB*

- Designed and developed a note-keeping app using **React.js** for dynamic front-end interactions, **Node.js** for backend functionality, and **MongoDB** for data storage.
- Implemented features allowing users to create, categorize, edit, and delete plain-text notes with a responsive interface.