Satrajit Chatterjee

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EDUCATION

Joint Honours BSc in Computer Science and Mathematics (4th Year) University of Ottawa
September 2019 - December 2023 **GPA**: 3.95/4.0

- **Academic Vice-President** of the uOttawa **Computer Science Student Association**.

SKILLS

Languages: Python, Java, C++, GoLang, Javascript, HTML/CSS, Ruby, R, PostgreSQL, Bash, Elixir, C#, Common Lisp, OCaml

Frameworks & Tools: Node.js, Docker, Kubernetes, Git, Spring Boot, React, Angular (Typescript), Next.js, Firebase, Redis, NumPy, Pandas, Scikit-learn, OpenCV, AWS (S3, ECS, Lambda), GCP, Flutter, Android, Linux, Jira, Unity, Apache Sling, d3

EXPERIENCE

Intact Financial Corporation - AI Backend Developer

September 2022 - December 2022 *Toronto, ON, Canada*

- Developed an **automated insurance fault detection testing algorithm** in **Python** that uses **graph model generation** for the **AI Claims Rules Engine** question flow manager, trained using question sets forming a decision with attributes of a claim, with test cases generated through **dynamic graph traversal**.
- Integrated **GitLab** with **Jira** reports for CI/CD and concurrent deployment of **2 million** automated tests using **pytest**.
- Utilized **OpenAPI** API classes for response assertion against payloads with **95% test coverage**, automated using **Bash**.
- Applied **design patterns** like **facades**, **adapters** and **factories** to design algorithms, documented with **UML diagrams**.

RBC Royal Bank of Canada - SRE Software Developer

January 2022 - April 2022 *Toronto, ON, Canada*

- Investigated **SRE** solutions to analyze **SLI** log data using **supervised learning** and predict **error budget** of services.
- Implemented employee portfolio of internal services by generating **GraphQL** endpoints using **ElasticSearch** and **PostgreSQL** queries, with upgraded queries that improved data access time by **40%**.
- Created interactive service **dependency graphs** in **React** using **d3**, **React Flow** and **MUI** with adaptive node generation and positioning, with designed **flow**-based interactive prototypes using **Figma** and **LucidChart**.
- Managed project deployment using containers on **OpenShift** and **Helios**.

uOttawa Engineering Outreach - Full-Stack Software Developer

May 2020 - December 2021 *Ottawa, ON, Canada*

- Developed a frontend session management interface in **Typescript**, **Angular**, **SCSS** and **Bootstrap**, designed with **Figma**.
- Built **REST API** endpoints in **Spring Boot** with **Java servlets** and **JSON schemas**, tested using **Postman**, and wrote **GoLang** scripts to log execution stats.
- Optimized testing suite with **60%** reduced stack execution time, migrating tests from **Selenium** to **Protractor** & **Cypress**.
- Enhanced **API** responses by improving **PostgreSQL** queries, speeding up endpoint services and batch calls by **90%**.
- Deployed services in **AWS** with **S3** buckets for storage and **ECS** for **Docker** deployments, and **CI/CD** using **Travis CI**.

ACADEMIC ACCOMPLISHMENTS

- Received **Chancellor's Scholarship** for academic excellence.
- Researched and presented a talk at the 2022 Canadian Undergraduate Mathematics Conference on: **A functional programming approach to mathematical analysis**.

PROJECTS

WorryNote - *Javascript, Node.js, React, Firebase*
- Versatile study app with pomodoro timer, and notes stored using local accounts and cloud storage with CRUD features.

KaratAI - *Python, Flask, OpenCV, React.js, Express.js, Adobe XD*
- Posture recognition using mapping of real-time video frame processing and a scoring system to train users in Karate.

g3po - *Python, Scikit-learn, Pandas, Jupyter*
- Experimental algorithm to analyze sequenced DNA from biological viruses and predict symptoms in a human host.