SATRAJIT CHATTERJEE

satrajit.ca | satrajit314@gmail.com | linkedin.com/in/satrajit-c | github.com/wise-bit

EXPERIENCE

Intact Financial Corporation Toronto, Canada

AI Backend Developer - Tooling June 2024 – Present
- Designed **Spark** operations for **ML insights**, generating verified **20M+** records of insurance quotes & policy data.
- Orchestrated compound **Airflow MLOps** pipelines on **Databricks** & **EC2** clusters for **30%** faster parallel execution.
- Created dynamic **file hierarchies** and tables on **AWS S3** and **Snowflake** for **10%** reduced storage costs.

AI Backend Developer - Rating Revolution May 2023 – Aug 2023
- Improved **PySpark DataFrame querying** and **Databricks** workflows by **50%** using **Java** user-defined functions.
- Built **wrapper functions** used for insurance **premium validation techniques** and compared **4 risk models**.
- Enforced **data governance** on personal identifiers using **Snowflake** access control & **dynamic masking policies**.

AI Backend Developer - AI Claims Sep 2022 – Dec 2022
- Developed an **automated insurance fault detection testing algorithm** in **Python** involving **graph model generation** for the **AI Claims Rules Engine** question flow manager, with **2 million** generated test cases.
- Utilized **OpenAPI** classes for case assertion of **95%** coverage with automated **Bash** testing flow to **GitLab** & **Jira**.
- Applied **design patterns** of **facades**, **adapters** & **factories** to design algorithms, reducing execution time by **53%**.

KPMG Toronto, Canada

Full-Stack Software Developer - Pay Equity Sep 2023 – Dec 2023
- Implemented a baseline tool for **Quebec pay equity analysis** and **classification** with **98%** case coverage.
- Designed a bilingual **legislation** to **compliance software pipeline**, streamlining **50%** of consultant auditing tasks.
- Constructed an automatic **payout distribution tool** for auditing in **React** frontend & **Python REST API** endpoints.

RBC Royal Bank of Canada Toronto, Canada

SRE Software Developer - Technology and Operations Jan 2022 – Apr 2022
- Implemented **SRE** portfolios with **GraphQL**, **ElasticSearch** & **PostgreSQL** queries causing **40%** faster data access.
- Developed **SLI** log data analysis tool to predict **error budget** with **80% accuracy** using **supervised learning**.
- Created interactive service **dependency graphs** in **React** using **d3**, **React Flow** and **MUI** with adaptive nodes.

University of Ottawa Ottawa, Canada

Full-Stack Software Developer - Engineering Outreach May 2020 – Dec 2021
- Built **30+ REST API** endpoints in **Spring Boot** with **Java servlets** and **JSON schemas**, tested using **Postman**, with **GoLang** scripts to log execution stats, connected to frontend using **TypeScript**, **Angular**, **SCSS** & **Bootstrap**.
- Deployed services on **AWS** with **S3** buckets for storage & **ECS** for **Docker** deployments, & **CI/CD** using **Travis CI**.
- Reduced stack execution time by **60%** by migrating tests from **Selenium** to **Protractor** & **Cypress**.

EDUCATION

University of Ottawa **GPA**: 4.0/4.0

JOINT HONOURS BSC IN COMPUTER SCIENCE AND MATHEMATICS CO-OP *Summa Cum Laude*
- **Ex Academic Vice-President** of the uOttawa **Computer Science Student Association** (CSSA)

PROJECTS

Leukemia Genomic Clonal Analysis - Honours Project | *Python, R, GitHub, Docker, BASH, Linux, Bioinformatics*
- Researched variational algorithms to detect cancer cells in single-cell RNA data.
- Preprocessed **multiomic genetic datasets** and compared performances of **CopyKAT** & **SCEVAN** algorithms on CITE-seq data with ∼**70%** accurate classification of unhealthy cells.
- Scripted automation workflows, containerized using **Docker**, for research replicability of **95%** steps.

FBank - Fantasy Bank | *Javascript, Node.js, React, Material UI, MySQL, Firebase*
- Simulated stock trading and markets for **Dungeons & Dragons 5e** with **blockchain** transactions.
- Dynamic UX for each DnD world with with aggregated stats & AI generative content using **Gemini 1.5** model.

TECHNICAL SKILLS

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