MRINMOY SONOWAL

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LANGUAGES AND FRAMEWORKS: PROFICIENT: **C++, C, Java, Python** | INTERMEDIATE: **SQL**, **Swift**, **Dart/Flutter, React** | Beginner: **Objective-C, Haskell**, **JavaScript**

EDUCATION AND QUALIFICATIONS

UNIVERSITY OF EDINBURGH, BSc (HONS.) ARTIFICIAL INTELLIGENCE AND COMPUTER SCIENCE   *09/2019-05/2023*

- Relevant courses: Algorithms and Data Structures, Machine Learning & Deep Learning, Data Science, Software Engineering, Natural Language Processing, System Design Project, Text Technologies (Information Retrieval & Text Analysis), Computer Communication and Operating Systems.
- 2019-2020: Edinburgh Award (Work Experience) for creating a mobile app to connect university students during the pandemic.
- 2020-2021: Won the Institute of Physics award to promote diversity and inclusion. I mentored a group at Hello World Hackathon to build a website (using **HTML**, **CSS**, and **Firebase**) to promote tutoring.
- Final grade pending due to marker strikes - on track for a 1st class.

WORK EXPERIENCE

DEMONSTRATOR - UNIVERSITY OF EDINBURGH   *09/2021-05/2023*

- Ran university classes to teach Algorithms and Data Structures, Functional Programming, Introduction to Computation, Software Engineering, NLP and Computer Systems.
- Achieved highest levels of attendance by delivering innovative lessons to teach these concepts.
- Skills: Teamwork, communication, problem-solving and leadership, programming in **Python, Java, Haskell, NLTK** and logic.

SOFTWARE ENGINEERING INTERN – AMAZON, PRIME VIDEO, iOS   *06/2022-09/2022*

- Worked on the client facing MacOS app with a **scrum** team - delivered project updates and daily stand ups.
- Demonstrated **strong ownership** of the project including *going the extra mile* to ask sister teams about similar projects.
- Built, tested, and deployed code on internal repositories by using internal **CI/CD pipelines.**
- Used **Git** to maintain workflow, open code reviews, merge, and squash commits.
- Created and updated features using **Swift** and **Objective-C** *bridging classes, lifecycle methods and view controllers*.
- Learned about operational tasks such as metrics collection and analysis, testing and bug fixing during a high paced live event (Thursday night football – Prime).
- Skills: Teamwork, communication, project management, time bound delivery, Git, Xcode and iOS development.

TECHNICAL PROJECTS

DISSERTATION – APPLICATION OF NETWORK SCIENCE IN HEALTHCARE   *09/2022-04/2023*

- Implemented *stochastic block models* (SBM) to create disease clusters – each patient's diseases mapped to clusters. (**Python**)
- Used clusters as features to predict mortality among patients in pre-existing dataset.
- Determined cluster membership through *set intersection* of cluster diseases and patient diseases.
- Wrote maintainable code, gained research experience, handled sensitive data, and gained further ML experience.
- Achieved a 1st class result.

SEARCH ENGINE - STORYHUNTER   *09/2022-03/2023*

- Developed a search engine using **information retrieval** concepts in a team of 6 with large scale data **(>100GB)** from the A03 website. (**Python**)
- Retrieved data from an SQLite file to the server using **Python** and **SQL (**coalescing and join queries).
- Reduced client server latency by 50% and enabled concurrency by creating a multi-client server architecture by using **FastAPI.**
- Implemented *boolean, phrase and proximity search* and built the ranked retrieval search using *tfidf* scores.
- Wrote maintainable and neat code by structuring classes, commenting, *code quality* and coding conventions.

SHORTQ (CO-FOUNDER)   **06/***2021-PRESENT*

- Made an android app to handle patient queues during the pandemic. (**Android Studio, Java, Firebase - backend**)
- Reduced user complaints by 25% by Improving the payment system using payment APIs.
- Reduced crowding by 50% and reached **1000+ users** in the first deployment cycle.
- Migrated to progressive web app from android to improve user base. (**React**)
- Designed and implemented the user profile class, booking calendar, landing page and payments. (**Android, React**)
- Worked on analysis, design, implementation, maintainability, and code quality.

DRONE DELIVERY SYSTEM   *09/2021-12/2021*

- Constructed an algorithm to efficiently deliver the orders to virtual *geojson* location objects avoiding no fly zones. (**Java**)
- Captured requirements by identifying key system states, stakeholders, use cases, and non-functional requirements.
- Developed the class, communication, and sequence diagrams for the system.
- Fetched JSON data from the **Apache Derby** server and interfaced it to the **Java** class using GSon.
- Implemented *system level tests* and *unit tests* for the respective use cases and overall system, using **Junit5**.

ACTIVITIES / LEADERSHIP

PROGRAMME REPRESENTATIVE – UOE SCHOOL OF INFORMATICS   *10/2022-06/2023*
- Link between students and staff to improve the student university experience.
- Work along with the school representative and other reps to build solutions as a team.
- Handle student feedback and suggest solutions and ideas for the present and future.
- Skills: Communication, problem solving and leadership skills.

ANCHOR - SIAF EDINBURGH DUSSEHRA FESTIVAL   *10/2022*
- Hosted in **front of thousands along with members of the Scottish parliament** and Edinburgh council.
- Presented performers and invited dignitaries on stage.
- Skills: Presentation, public speaking, creativity, teamwork, and event coordination.

MENTOR/JUDGE - ADAHACK   *10/2022*
- Helped students with Hooper's data science challenge**. (Python, data visualisation, machine learning)**
- Judged projects from 30+ students.
- Provided meaningful feedback and assistance.
- Skills: Leadership, management, event coordination, and education.

INFPALS LEADER   *09/2020-05/2021*
- Lead student sessions in an engaging activity filled way.
- Lead Git, Haskell and Leetcode sessions, interview preps and job hunt sessions.
- Received positive reviews from students and highest attendance out of all the peer groups.
- Skills: Teamwork, leadership, creativity, and communication skills.

PROJECTS LEAD - EMBEDDED AND ROBOTICS SOCIETY   *08/2021-03/2021*
- Coordinated events online to direct students to use embedded systems.
- Used **Python** and **Arduino** (virtual environment) to simulate basic devices.
- Skills: Leadership, management, and event coordination.

SPRING INTERN   *08/2020-03/2021*
- Attended weeklong events by JP Morgan, Citadel and Morgan Stanley.
- Learnt about technology in financial markets and various market products.

ABOUT ME

I am a hardworking, customer driven and resolute learner, who delivers quality work items in a time bound manner. I love to work in a high impact team to make QoL and important product changes. I have also developed a deep interest in scalable systems as proven by my work in both Shortq and Storyhunter. I have 3 years of mobile experience and I enjoy working on mini projects and coding challenges. Above all, I would love to work in a team that solves problems and makes a positive impact around the world. My hobbies and interests include travelling, hiking, attending socials and following current affairs. I am energetic, enthusiastic, and love learning from diverse experiences from people.

References are available upon request.