Joon Ho Son

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EXPERIENCE

Google, Software Engineer III   Oct 2021 – Present
- Built and launched several user-facing data summarisation features of the Care Studio web app in **TypeScript**, **Java**, and **C++** in close collaboration with UX, product, and clinical teams.
- Optimised memory management in certain **C++** request handlers, yielding tail latency improvements of up to 50%.
- Owned the team's load generation infrastructure, including building a regulation-compliant offline data sampling pipeline for realistic synthetic traffic, creating safer releases.
- Other responsibilities included handling production on call incidents to minimise clinical risk and co-hosting an intern to successfully deliver their project over the course of 12 weeks.

Google, Software Engineering Intern   May 2020 – Oct 2020
- Designed and implemented a persistent caching framework for the Care Studio mobile app with **Dart** and **Flutter**, facilitating offline use and improving the latency of critical user journeys.
- Added support for emitting hospital events as arbitrary resource formats (e.g. FHIR) to Simulated Hospital, Google's open-source synthetic health data generation tool, with **Go**, delivering the project four weeks ahead of schedule.

Google, STEP Engineering Intern   Jul 2019 – Sep 2019
- Designed and implemented a resource optimisation tool for a distributed data synchronisation service using **Go** and **protocol buffers**.
- 52% projected RAM utilisation savings in production pipelines by applying computed optimal resource footprints.
- Increased productivity for service users by integrating with an internal incident response management tool to reduce toil involved with diagnosing underprovisioned pipelines.

EDUCATION

Imperial College London   Sep 2017 – Jul 2021
- MEng Computing, 1st Class Honours (77.70%)

Hills Road Sixth Form College   Sep 2015 – Jun 2017
- A-Levels: Maths (A*) Chemistry (A*) Further Maths (A) Physics (A) EPQ (A*)

PROJECTS

Semantic Synthesis of Diabetic Retinal Fundus Images sonj.me/semantic-retina   Oct 2020 – Jun 2021
- Proposed a novel process for generating synthetic data for training models that detect diabetic retinopathy.
- Publication of preliminary results accepted by and presented at *Medical Imaging with Deep Learning* 2021; available at 2021.midl.io/papers/e12.

Automated Image Analysis for Gene Therapy sonj.me/cells   Oct 2019 – Jul 2020
- Worked in collaboration with *Cambridge University Neuroscience* to lead a team of six in developing a cell segmentation algorithm in **Kotlin** that performs 10% more accurately compared to previous methods.
- Publication accepted to the *Journal of Open Research Software*; available at doi.org/10.5334/jors.342.

Mobilise sonj.me/mobilise   May 2019 – Sep 2019
- Developed a volunteer coordination web app for *City Harvest London*, a charity aiming to end food waste.
- Used full-stack **JavaScript** to build a user-friendly web frontend (**React**) and powerful backend (**Node**, **PostgreSQL**) hosted on **AWS**.
- Awarded the *IBM 2nd Year Group Project Prize* and funded for further development by *Imperial College Charity Insights*.

WACC Compiler   Jan 2019 – Mar 2019
- Worked in a small team to engineer a compiler in **Kotlin** from scratch.
- Implementation included class functionality, control flow analysis, and automatic reference counting.

ACHIEVEMENTS

Palantir Data Ethics Case Competition (1st Place) sonj.me/data-ethics   Sep 2018
- Coordinated a multi-disciplinary team to present a proposal detailing the technical and ethical challenges surrounding large-scale data collection at the *Amsterdam Privacy Conference 2018*.

VOLUNTEERING

School Governor, Rotherfield and Newington Green Federated Board   Oct 2022 – Present
- Appointed as a member of the governing board to oversee strategy, vision, and finances for a total roll of > 700 pupils and £600,000 annual budget.

Vice-President & Secretary, Imperial College Taekwondo   Sep 2018 – Jul 2020
- Worked in a committee of nine to run a society of greater than than fifty members.