Luca Mehl

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Education

2020-2024 MEng Computing Imperial College London (3rd Year)

- 2nd year modules include **Networks & Communications, Algorithms,** Relational Databases, Probability & Statistics, Operating Systems, Compilers, Reasoning about Programs, etc.
- Group projects using **continuous integration/deployment** and **test-driven development**.

Projects

- **PintOS Operating System**
  Built a **UNIX operating system** in C, implementing scheduling (priority donation and multilevel feedback queue scheduling), user/kernel partitioning, system calls, and virtual memory, in a group of 4 over 3 months.
- **WACC Compiler**
  Designed and built an **optimizing compiler** for the WACC programming language from scratch, written in Scala and designed to run on ARM. Created in a group of 4 over 3 months.
- **Imperial Module Selection Website**
  Designed and built a website in the MERN stack (MongoDb, Express, React, Node) to help Imperial students pick their optional modules, using human-centered design principles and agile development in a group of 4 over 1 month.

2020 International School of Geneva, Campus des Nations

- IB Bilingual Diploma, English/French: **44/45**
- Math **7**, Physics **7**, Chemistry **7**, Geography **7**, English A **7**, French A **6**

Selected Experience

Software & Avionics Engineer, Karman Space Programme (KSP) – 2021-Ongoing

- A student-led initiative from Imperial, KSP aims to launch the first student-researched and designed reusable rocket to the Kármán line, the edge of outer space at 100 km.
- Primary **systems architect** for Mission Control and Data Visualization applications, with web applications developed in MongoDB+Express+React+Node, Linux servers for hosting, and GCP for hosting virtual routers with Flex VPN for data routing.

Imperial College ICHack 2022 Finalist: Real Impact Hack – February 2022

- Built a webapp using Palantir Foundry to conduct a locational risk assessment of housing zones in California, based on ingest from earthquake, flood, and wildfire risk datasets, and proposed FEMA mitigation and adaptation strategies according to these risk factors.

MIT Beaverworks: Unmanned Autonomous Vehicle Synthetic Aperture Radar – Summer 2019

- Placed first in a competition at MIT to build a multicopter-mounted radar imaging system in a 4-person team over 1 month.

Programming Languages

- Preferred: **Python, Java, C, Scala, Kotlin**
- Familiar with: **JavaScript**, **Typescript**, Haskell, Prolog, **MERN Stack** (MongoDB + Express + React + Node), **LAMP Stack** (Linux + Apache + MySQL + PHP), Z3/SMTlib2

Additional Skills & Interests

- **Cyber Security** (UK Gov. CyberStart Essentials)
- Significant experience with **IoT** microcontrollers (Arduino, Raspberry Pi, ESP32) +sensors
- Active member of the Imperial College Mountaineering and Caving Societies, and involved with the Advanced Hackerspace and Robotics Society