Luca Mehl

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EDUCATION

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

- **3rd year**: Advanced Concurrency, Machine Learning, Computer Vision, Network & Web Security, Robotics, Custom Computing
- **2nd year**: Networks & Communications, Algorithms, Relational Databases, Probability & Statistics, Operating Systems, Compilers, Program Verification, etc.

International School of Geneva, Campus des Nations 2020

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

GROUP PROJECTS

- **Cryptic Crossword Solver** (ongoing) (Supervisor: Dr. Anthony Field)
  Building a **cryptic crossword-solving app** with OCR grid and clues from image upload, full-grid syntactic & semantic solving, and interactive UI built with React Native; focus on scalability.
- **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.
- **WACC Compiler**
  Designed and built an **optimizing compiler** for the WACC programming language from scratch, written in Scala and designed to run on ARM.
- **Imperial Module Selection Website**
  Designed and built a website in the MERN stack (MongoDB, Express, React, Node) using human-centered design and agile development, to help ICL students select optional modules.

SELECTED EXPERIENCE

Software Lead, ICL Karman Space Programme (KSP) – 2021-Ongoing

- Head of 5-person software team; primary **systems architect** for Mission Control and public-facing launch website; livestream networking.
- KSP aims to launch the first student-researched and designed reusable rocket to the Kármán line, the edge of outer space at 100 km.

Imperial College ICHack 2022 - Finalist: Real Impact Hack

- Built a web app 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

- Working in a group of 4, placed first in a competition at MIT to build a multicopter-mounted radar imaging system.

PROGRAMMING LANGUAGES

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

ADDITIONAL SKILLS & INTERESTS

- 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