APRIL OF 2023

JOSHUA FREEMAN

EDUCATION

2022-2023: University of Oxford, year abroad.
2020-2023: EPFL, BSc in Computer Science.

LANGUAGES

Natural languages: Fluent in **English** and **French** (GB and FR citizen). Intermediate (B2) in **Spanish**. Basic level (≈A2) of **Hebrew**.
Programming languages: Projects/courses: Python, Java, Scala, VHDL, MIPS and NIOS ASM, LaTex, Git, and C. Experience with Haskell, ML languages, Mercurial, ARM ASM.

PROJECTS

- tCHu: Java implementation of the board game Ticket to Ride (in class).
- CryptKVS: C implementation of an encrypted database, in the style of the SIGNAL protocol (in class).
- Snake: NiosII ASM implementation of a Snake game on an FPGA (in class). Got 100 (full marks).
- NIOS: VHDL multi cycle processor on an FPGA (in class). Got 100 (full marks).
- NLP: Python, implementing the Word2Vec paper on a project called HPShape (github).
- Computer Vision, software engineering:
  - "Recognition of unexploded ordnance using transfer learning". Preparing classification models to help Ukrainian deminers. Collecting the train dataset via different methods, fine-tuning different models. Mostly using CLIP with grad-cam. Achieved 80+% accuracy. Did a **TEDx Talk** on this.
  - Upcoming: Finetuning models for segmentation of butterflies in photos. Contracted volunteer for De Vlinderstichting (Netherlands).
- Research in Quantum Causality theory in the Oxford Quantum Group (quantum computing).
- Other: Bots on Telegram and Discord, mostly in Python (see github).

TEACHING

- Mentored 50+ first-year students in Physics-101, delivering weekly interactive classes and problem solving workshops on Newtonian principles.

TEAMWORK AND LEADERSHIP

- Founder and secretary of EPFL's philosophy society. Organised conferences and workshops, often welcoming 40+ people.
- Founder of free preparatory week *Students for Students* (s4s.fun). Co-writing and teaching of the physics lesson. Managed a team of 73 people. 2021 week attended by >140 students. 2022 edition attended by 500+ students (only tutored and co-wrote the lesson in 2022).
- Team leader at the French EEIF scouts.

RELEVANT GRADES

- 6/6 in physics 101.
- 5.75/6 in Advanced information, computation, communication.
- 5.75/6 introduction to Machine Learning.
- 5.5/6 in Theory of Computation.
- 5/6 Parallelism and Concurrency.
- Currently taking databases, continuous optimisation.
- 5.75/6 in Linear Algebra.
- 5.5/6 in practice of object-oriented programming (java).
- 5.5/6 in Probabilities and Statistics.
- 5.5/6 Computer Networks.

OTHER INTERESTS

VOLUNTEER WORK

- Furnished a 45 room maison-relais with Entraide Le Relais.
- Restos du coeur Strasbourg : organisation of food distribution.
- Oxford gatehouse volunteer, organising Jewish Society/gatehouse volunteering.
- Helpline volunteer at Abrapa for the 2020 crisis.
- Lausanne soup kitchen cooking and serving.
- Meals officer for the Jewish society of Oxford. Organised 6 meals/week for 8 weeks.

POETRY

- Published in Anthology of Rimbaud competition. (classical poetry). 70th+ percentile of 1000+.
- Oriel College student newspaper (classical poetry). Reached hundreds of people.

JOBS

- LaTex freelance typesetting (March 2020). Teaching guitar (January to June of 2022).

INTERNSHIPS

- Junior discovery internship at the European Justice court, in the office of the Estonian judge.

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