APRIL OF 2023 OXFORD, UK

JOSHUA FREEMAN

British and French citizen interested in software engineering, computer vision, NLP, and quantum computing research.

EDUCATION

2022-2023: Year abroad in Computer Science, University of Oxford, United Kingdom.
2020-2023: Bachelor of Science, Computer Science, Ecole Polytechnique Fédérale de Lausanne, Switzerland.

LANGUAGES

Natural languages: Fluent in **English** and **French**. 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

- Java implementation of the board game Ticket to Ride (in class). Got >90%.
- C implementation of an encrypted database, in the style of the SIGNAL protocol (in class). Got >90%.
- NiosII ASM implementation of a Snake game on an FPGA (in class). Got 100 (full marks).
- 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:
  a. "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.
  b. 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).

EXPERIENCE

- Meals officer, *the Jewish society of Oxford* (2023).
  - Organised Shabbat and weekday meals for 8 weeks. Attended by 100+.
  - Organised a collaboration between JSoC and the Gatehouse, a local soup kitchen.
- Teaching Assistant in physics, *EPFL* (September to December of 2021).
  - Mentored 50+ first-year students in Physics-101, delivering weekly interactive classes on Newtonian principles.
- Guitar teacher (January to June of 2022).
- Founder and secretary, *EPFL's philosophy society* (2021-2022).
  - Organised conferences and workshops, welcoming 40+ people.
- Founder, *Students for Students* (2021).
  - Co-writing and teaching of the physics lesson.
  - Managed and led a team of 73 people.
  - First edition: 140+ students. Second: 500+ students (only tutored and co-wrote the lesson in 2022).
- LaTex typesetter (March 2020).

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.

EXTRA-CURRICULARS

VOLUNTEER WORK

1. Furnished a 45 room maison-relais with Entraide Le Relais.
2. Restos du coeur Strasbourg : organisation of food distribution.
3. Oxford gatehouse volunteer, organising Jewish Society/gatehouse volunteering.
4. Helpline volunteer at Abrapa for the 2020 crisis.
5. Lausanne soup kitchen cooking and serving.

POETRY

1. Published in Anthology of Rimbaud competition. (classical poetry). 70th+ percentile of 1000+.
2. Oriel College student newspaper (classical poetry).

INTERNSHIPS

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

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