

BAKHTIAR ZADEH

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Portfolio website: <https://bakhtiarz.github.io/>

A hard working and motivated Electronic and Information Engineering MEng student graduating in 2024.

EXPERIENCE

APRIL 2023 – OCTOBER 2023

SOFTWARE ENGINEER INTERN, J.P. MORGAN

- I worked as a software developer within JP Morgan's market making arm for fixed income products. This role required me to implement features, often involving networking, that met strict latency and code quality requirements. My flagship project was a single-threaded low latency HTTP Server. I worked using C++ 14.

JULY 2022 – OCTOBER 2022

HARDWARE ENGINEERING INTERN, IMAGINATION TECHNOLOGIES

- Worked in the Graphics High group. Primarily worked on verification and testbench profiling/grading. Learned SystemVerilog and familiarized myself with industry tools.

OCTOBER 2018 - CURRENT

TEACHING ASSISTANT / TUTOR, IMPERIAL COLLEGE LONDON / PRIVATE

- I offer 1-1 tutoring and I take part in being a teaching assistant for various modules. These roles have aided me to develop my professionalism and adaptability. I learnt to communicate with people of different ages and with different levels of expertise. This included children, students, and parents.

EDUCATION

AUGUST 2024

ELECTRONIC AND INFORMATION ENGINEERING, IMPERIAL COLLEGE LONDON

Achieved a 1st class award for my first, second year, and third year. Degree is projected to achieve a high 1st class award.

AUGUST 2020

A-LEVELS, WOODHOUSE COLLEGE LONDON

Mathematics – A*

Further Mathematics – A*

Physics – A*

AUGUST 2018

GCSE, WREN ACADEMY

Mathematics – 9
Further Mathematics – 9
Physics – 9
Biology – 9
Chemistry – 7
Computer Science – 8
English Language – 9
English Literature – 9
Spoken English Language – Distinction
Geography – 7
French – 6

SKILLS

- Proficient in mathematical methods and analysis
- Good interpersonal skills developed by experiencing different work environments.
- Machine learning and Computer vision theory and application
- Computer architecture
- C++.
- SystemVerilog
- Julia
- Python as a secondary language
- Version control, Git and Perforce
- Linux familiarity through work
- FPGA
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PROJECT WORK

I have completed numerous difficult projects during my time at university. These can be seen more explicitly on my website: <https://bakhtiarz.github.io/>.

- Latency optimized HTTP server and client written in C++
- Hardware diffusion model accelerator using data flow methods on an FPGA
- Post-Training-Quantisation on Latent Diffusion Models
- Sparse medical image reconstruction using Julia
- Designed FPGA accelerator to improve performance for signal processing algorithms, work included various design space explorations and architectural explorations.
- Created a fully functioning autonomous mars rover that could navigate and survey complex terrain with obstacles. This involved FPGA and embedded programming; more details can be seen on my website.
- Developed Computer vision pipelines involving digital signal processing and machine learning models using PyTorch.
- Made a C++ Compiler for MIPS32 assembly. The compiler was not perfect, but it could compile C++ code into mips32 assembly.
- Developed an online multiplayer Simon Says game to help patients with musculoskeletal diseases like cerebral palsy. This was a large group project that involved learning about game design, FPGA programming, and network programming using AWS to host a python server.
- Boolean Algebra simplifier using algorithms to build a binary tree and reduce all duplicate subtrees without using prebuilt functions.