

IBRAHIM SALAT

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EDUCATION

Master of Science in Physics (MSci) | University of Bristol

Sep 2019 - Jun 2023

- **Relevant Modules:**

- Scientific Computing, Probability and Statistics, Matrix and Linear algebra, Data Analysis for scientist.

- **Master's Thesis:**

- Building a computational simulation for the storage of tritium in nuclear fusion power plants.

- **Relevant Projects:**

- **Implementation of FFT on HPC:** Designed the FFT algorithm to be implemented on the Bristol University HPC using C++. Implemented Parallelization techniques such as multi-threading and distributed memory using OpenMP and MPI for optimization and runtime efficiency.
- **CIUK Computing Insight Cluster Challenge:** Represented the university at the CIUK challenge, where we deployed and optimized ML models on specialized semiconductor chips. My team successfully collaborated with Nvidia Riva to deploy a model that summarizes scientific papers.

TECHNICAL SKILLS

Languages | Python, C++, C, Java, SQL, MATLAB

Scientific | NumPy, Pandas, TensorFlow, OpenMP, MPI, tableau

Design | Adobe Premier Pro, Adobe After effects, Photoshop, Lightroom

Developer Tools | Docker, Git, Agile Methodology.

PROFESIONAL EXPERIENCE

Geophysicist | CGG

Sep 2023 - Present

Worked as a seismic data analyst to implement various modelling and imaging techniques to produce industry leading seismic images.

- Managed the project dashboard, creating and maintaining relational databases holding ~**500 Tb** of seismic data.
- Contributed towards the development of a novel data driven **targeted Inversion** modelling technique, increasing runtime efficiency by ~**60%**, leading to a new discovery of hydrocarbons in the North Sea.
- Worked on the implementation of Dense Neural Networks to predict gas body location in the subsurface.
- Performed statistical analysis on processing outputs using in-house data visualization software, to assess data quality, providing valuable insights for stakeholders to aid client decision-making.
- Organized weekly client meetings to discuss project vision and requirements, while also updating on the current project progress using PowerPoint presentations and technical project reports.

Machine learning Software Engineer | Intern | Graphcore

Jun 2022 - Sep 2022

Benchmarked Machine Learning Models implemented on the IPU.

- Researched the low-level mechanism of the IPU and the implementation of ML models on the IPU.
- Architected a project plan to analyse the performance of convolutions with respect to **16** parameters.
- Optimized the company specific library to gather larger sets of performance metrics used for Benchmarking.
- Used data visualization software to highlight the key parameters limiting the performance of the models leading to a ~30% increase in efficiency. Presented this to key stakeholders.

PERSONAL PROJECTS & EXTA-CURRICULAR

- **eCommerce Bike Store:** Used **SQL** to pull relevant data from company dashboards and used **Tableau** and **Excel** to create an interactive and dynamic sales dashboard.
- **Stock Price Prediction:** Implemented Recurrent Neural Network to predict historical stock prices using TensorFlow in python. Used Matplotlib for Data visualization.
- **Leadership:** Held the position of the Teach Lead for the Bristol Entrepreneur Society as I have a keen interest in Deep Tech start-ups, especially in Quantum Computing Start-ups.
- **Content Creation:** Created online educational video and written content viewed more than 3 million times in total. Runner up for the 2018 Children's International Film Festival in the UAE.