

Pavanpreet Singh Gandhi

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SKILLS

- **Programming Languages:** Python, R, SQL, Bash
- **Programming Frameworks:** PyTorch, JAX, HuggingFace, NumPy, Pandas, Matplotlib, etc.
- **Technologies:** Deep Learning, Large Language Models, Reinforcement Learning, Probabilistic Modelling, Gaussian Processes, Bayesian Inference, Time Series Analysis, Anomaly Detection
- **Tools:** Git, Docker, Linux, Jupyter Notebooks, Streamlit

EXPERIENCE

- **American Express** Brighton, UK
Graduate Data Scientist Sep 2023 – Aug 2024
 - **Anomaly Detection:** Applied **unsupervised learning** techniques and **robust statistics** to detect anomalies in call-volume data. Deployed the model in a system to automatically send alerts to the operations teams.
 - **Data Engineering:** Maintained **PySpark** data pipelines and developed a custom uploader-factory system enabling 200+ non-technical users to upload data directly to the data lake.
 - **Data Science Community:** Part of the organising community for a 100+ member data science community. Presented a talk on software engineering best practices for data science.
- **American Express** Brighton, UK
Data Science Internship Jun 2022 – Aug 2022
 - **Time Series Forecasting:** Developed a **time series forecasting model** leveraging Prophet and NeuralProphet to predict call volumes over various time horizons.
 - **UX Research:** Met with multiple stakeholders across the business to understand their needs and pain points.
- **Looloo Technology** Bangkok, Thailand
Machine Learning Internship Jul 2021 – Dec 2021
 - **Underline Detection:** Developed a novel **computer vision** algorithm based on **Gabor filters** to detect and remove underlines from handwritten text.
 - **Auction Price Prediction:** Continued working part-time on **feature engineering** of confidential order-book data for a **reinforcement learning** algorithm that predicts the auction price of a stock.
- **Mahidol University** Bangkok, Thailand
TA and Tutor Jan 2021 – Dec 2021
 - **Discrete Maths TA:** Teacher assistant for course taught by Dr Piti Ongmongkolkul.
 - **Maths Clinic Tutor:** Helped students struggling with first-year undergraduate maths courses.

EDUCATION

- **University College London** London, UK
Master of Science in Computational Statistics and Machine Learning Aug 2023 – Present
 - **Relevant Courses:** Reinforcement Learning (DeepMind), Open-Endedness and General Intelligence (Tim Rocktäschel et al.), Probabilistic Unsupervised Learning (Gatsby).
 - **Thesis:** Working with Century Tech on **audio reasoning models** for automated grading of oral assessments.
- **Mahidol University International College** Bangkok, Thailand
Bachelor of Science in Applied Mathematics; GPA: 3.89 Aug 2019 – Apr 2023
 - **Relevant Courses:** Deep learning, Machine Learning, Optimization, Numerical Methods.
 - **Thesis:** Deep Q-Learning for Stock Portfolio Optimization.
- **NIST International School** Bangkok, Thailand
IB Diploma Aug 2017 – Jun 2019
- **NPS International School** Singapore
IGCSE Aug 2008 – Jun 2017