Advit Ahuja

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Experience

ServiceMob **April 2025 – July 2025**
Internship - Machine Learning Engineer *California, Irvine*

- Architected a **Retrieval-Augmented Generation (RAG)** framework for domain-grounded responses.
- Developed **hallucination-mitigation** techniques which were factually aligned with source documents.
- Programmed Multivalent Ontological Blocks which transformed noisy customer interactions into interpretable insights.

RE:JOIN **August 2023 – April 2024**
Software Engineer - Mobile App Developer *Remote*

- Utilized **Flutter** and relevant tools (Android Studio, Dart, Xcode) for development given specifications set via Figma.
- Incorporated screens and widgets with seamless integration using dependency injections improving reusability by 30%.
- Leveraged services, repositories, and **GraphQL** to communicate with the database ensuring a robust and responsive UX.

Projects

Neutron and Muon Source - Dissertation (82%) | *Python with Jupyter Notebook* **September 2023 - April 2024**

- Implemented various machine learning algorithms from **scikit-learn** to predict ion-source failures in a particle accelerator. Analyzed results and visualized performance with **Matplotlib**.
- Achieved a high 90% in failure prediction accuracy. Presented findings to the team at **UKRI** through the dissertation report, screen cast and further presentations, influencing their decision to invest further with this project.

NLU - Evidence Detection | *Python with Jupyter Notebook* **March 2024 - April 2024**

- Classified unseen claim-evidence pairs using two approaches, a traditional machine learning method (Logistic Regression) and a Deep Learning approach (CNN with Attention Layer).
- Preprocessing: stop words and special characters, tokenization and lemmatization; lowest Levenshtein distance. Both models outperformed the given baselines with accuracies above 80%, Macro-Precisions above 75%.

Deep Neural Networks (DNN) for Vision Recognition | *Python with Google Colab* **March 2024 - April 2024**

- Modeled and then fine tuned a Convolution Neural Network (**CNN**) to classify images from the CIFAR-100 dataset and produced a scientific report of the experiments given my model.
- Plotted the accuracy against the epochs for different dropout rates, pool sizes, kernel sizes, and Learning Rates in order to tune the CNN; this resulted in a 14% increase in accuracy in comparison to the baseline.

Education - United Kingdom

The University of Manchester **September 2021 – July 2024**
Grade: 2:1 *BSc(Hons) Computer Science*

Bedford School **September 2019 – June 2021**
Mathematics: A; Computer Science: A*; Economics: A* *A levels*

Technical Skills

Languages: Python, Java, C, C++, C#, Haskell, HTML/CSS, JavaScript, NodeJS, MySQL, graphQL, Dart, Flutter

Developer Tools: Visual Studio Code, Xcode, Anaconda, Jupyter Notebook, Eclipse, Android Studio, Figma

Achievements and Awards

Coursework Competition: Most Impressive Design and Implementation for the First Year Team Project.

GDSC AI/ML Co-Lead: Co-Lead for the AI/ML Google Developer Student Club.

Reply Challenge: Participated in an European hackathon.

Harvard's MOOC: Undertook Harvard's MOOC *Using Python for Research.*