Aptha Sara Mohan

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# PROFESSIONAL SUMMARY

# Professional with over 6 years of experience in the software industry, currently pursuing an MSc in Artificial Intelligence at the University of Surrey. Skilled in machine learning, natural language processing (NLP), and large-scale data analytics. Seeking a Research Assistant role to apply my expertise in working with large language models (LLMs) and NLP techniques. With strong programming skills and experience in AI, I am eager to contribute to research exploring innovative methods for improving dialogue systems and enhancing AI-driven interactions

# EDUCATION

**MSc in Artificial Intelligence**,(Grade: 2:1)

University of Surrey, Guildford, UK

**MS in Software Engineering**, [Postgraduation]

BITS Pilani, India

**Btech in Computer Science and Engineering,** [Undergraduation]

College of Engineering, Kidangoor, India

# SKILLS

* **Programming Languages:** Python (Numpy, Pandas, Matplotlib, Seaborn, Scikit-Learn)
* **Deep Learning & Machine Learning Libraries:** TensorFlow, PyTorch, Keras, OpenCV, Dlib, Scikit, MFCC
* **Expertise:** Supervised & Unsupervised Machine Learning, Natural Language Processing (NLP), Computer Vision (CV), 3D Gaussian Splatting (3GDS), Neural Radiance Fields (NeRF), Augmented Reality (AR), Virtual Reality (VR), Cloud Computing, Database Management Systems
* **Data Analysis & Visualization:** Excel, Power BI, Tableau, Matplotlib, Seaborn SQL, Exploratory Data Analysis (EDA), Feature Engineering, Data Cleaning, Statistical Analysis, Forecasting
* **Tools & Platforms:** COLMAP, MeshLab, MATLAB, Linux, SQL, Microsoft Azure, AWS, Git, Swagger, Swift, POSTMAN

# PROJECTS

**Project 1: Multi-modal Neural Scene Rendering from Images and LIDAR for Crime Scene Reconstruction**

* Developed a 3D scene reconstruction system using multi-modal data from LIDAR and images, improving scene accuracy by 20%.
* Integrated point cloud data with Neural Radiance Fields (NeRF) and 3D Gaussian Splatting, leading to reduction in rendering time.

**Project 2: Vehicle Re-Identification Using Deep Learning**

* Applied a combination of CNN models (MobileNet, VGG16, ResNet) and transformer models (Vision Transformer - ViT) to tackle vehicle re-identification challenges, achieving a 10% improvement in accuracy.

**Project 3: Sequence Classification for Abbreviation and Long Form Detection For NLP**

* Implemented sequence classification models to detect abbreviations and their long forms in biomedical literature, utilizing POS and NER tags for enhanced accuracy and achieving a 12% improvement in detection.
* Integrated the model into both front-end and back-end systems, allowing users to input text and obtain predictions, ensuring seamless operation.
* Contributed to the CI/CD pipeline by managing version control and automating the deployment process, ensuring smooth integration and updates.

**Project 4: Melanoma Classification**

* Experimented with CNN architectures (ResNet34, ResNext101, MobileNetV2, EfficientNetB0) and achieved 7% improvement in accuracy.

**Project 4: Heart Murmur Detection from Phonocardiogram Recordings**

* Developed a deep learning model using audio data to detect heart murmurs from phonocardiogram recordings, achieving a 15% improvement in classification accuracy.

# EXPERIENCE

**Admin Backoffice/ Receptionist | University Of Surrey, Guildford,UK| September 2024 – Present**

* Updating student database and enabling student access with application like ARX and Kinetic Live.
* Present Automated the key code tracker system, improving reporting accuracy by 20%.
* Communicating and coordinating with supervisor, internal teams, student advisors and students.

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# Lead Engineer | Mphasis Pvt Ltd, Bangalore, India | April 2022 - March 2024

* Data analysis , preprocessing and feature extraction using python libraries.
* Analysed operational data and introduced predictive models, leading to a 10% improvement in efficiency.
* Led and managed a team of 8 members , Participated in agile ceremonies and scrum activities, enhancing team collaboration and project delivery efficiency.

# Application Development Specialist | Accenture, Bangalore, India | January 2019 – July 2021

* Automated testing processes using RPU and cucumber frameworks, resulting in a 15% improvement in test coverage.
* Ensured compliance with industry standards, reducing 5G deployment errors by 4%.
* Improved code quality through continuous integration and SonarQube script automation.

# Senior Analyst | Sapiens Pvt Ltd, Bangalore, India |November 2017 – December 2019

* Worked on API Backend optimization ,Utilized graph traversal algorithms to enhance product scalability, improving query performance by 0.5 milliseconds.
* Developed classification algorithms for optimized decision-making, improving processing time by 12%.
* Managed project dashboards, resulting in a 10% increase in actionable insights.

# EXTRA-CURRICULAR ACTIVITIES

* Photography, Travelling, Gardening, and Dancing

# LANGUAGES

* English, Hindi, Malayalam