

EDUCATION

- **University of Edinburgh** Edinburgh, UK
Master of Science in Speech & Language Processing Sept 2022 – Aug 2023
- **IIITDM Jabalpur** Madhya Pradesh, IN
Bachelor of Technology in Computer Science & Engineering Aug 2013 – Aug 2017

EXPERIENCE

- **Quantiphi Inc. (Applied Science Team)** London, UK
MLE - Part Time Oct 2022 – Jan 2023
 - Developed a Python package using Google-OR tools to optimize vehicle routing with capacity, time, and distance constraints.
- **iSchoolConnect Technologies Pvt. Ltd.** Mumbai, IN
MLE, Sr. MLE, Lead MLE Dec 2018 – Aug 2022
 - Led a team of machine learning engineers, data engineers and annotators shaping the company's AI product offerings.
 - Spearheaded the ideation and development of the Writing Mentor Tool and online Exam Proctoring Engine, resulting in acquisition by Turnitin.
 - Trained and fine-tuned language models like ULMFiT and BigBird transformer for automatic essay scoring.
 - Fine-tuned a T5 and GPT-2 model to generate essay feedback, resulting in 20% faster turnaround time and 37% reduction in editing service cost to company.
 - Trained adapter transformers to optimize low-resource model training, resulting in $1/8^{th}$ reduction in model size.
 - Developed logistic regression model with conformal predictions to flag suspicious exams for prioritized human review.
 - Optimized the orchestration of 6 ML & DL models to proctor over 0.7 million exams/month at less than \$0.1/exam.
 - Established data pipelines with MongoDB and Apache Kafka. Implemented MLFlow and DVC workflows for tracking.
 - Registered patent *MAURYA, Himanshu et al.* Machine Learning System for Analysing the Quality and Efficacy of Essays for Higher Education Admissions. US Application No. 17/453,416
- **Staqu Technologies Pvt. Ltd. (R&D Team)** Gurugram, IN
Jr. Research Engineer Jun 2017 - Oct 2018
 - Implemented a News Intelligence Engine for Indian languages, and similar news clustering and machine translation modules. These modules enabled semantic search capabilities in PINE, an advanced AI data aggregation and search engine.
- **Oracle India Pvt. Ltd.** Bengaluru, IN
Software Development Engineering Intern Jun 2016 - Nov 2016
 - Implemented a Python module for scheduled password updates as part of automation for PaaS setup using Oracle Cloud.

RESEARCH PROJECTS

- **Masters Thesis:** Improving the Appropriateness in Cross-Text Prosody Transfer using Human Supervision. Implemented a novel approach for enhancing naturalness and prosodic appropriateness in cross-text Prosody Transfer (PT) through efficient Human-in-the-Loop (HitL) supervision.
 - Trained Daft-Exprt with HiFi-GAN on Blizzard 2013 dataset for expressive prosody modelling.
 - Developed a speech editing application for word-level acoustic feature modification, leading a speech editing experiment with 33 participants, resulting in a novel Speech Editing Corpus (SEC).
 - Conducted subjective evaluations of SEC with 68 participants, yielding a 70% improvement in perceived PT appropriateness. Introduced a quantitative edit effectiveness metric, providing valuable HitL system design insights.
- **Stance Detection:** Automated detection of author's political stance in news articles using a transformer model with a classification head for stance prediction.
- **Named Entity Recognition:** Implemented a Bidirectional LSTM-CRF model using words and characters as features. Achieved 0.92 F1-Score on CoNLL-2003 test set (English) and 0.87 F1-Score on self-curated Hindi dataset.

TECHNICAL SKILLS

- **Frameworks:** PyTorch, TensorFlow, Hugging Face Transformers, LangChain
- **MLOps & Data Engineering:** MLFlow, DVC, Ray, Apache Kafka
- **Languages:** Python, Java, C++
- **Application Servers:** Tornado, Flask
- **Database:** MongoDB, PostgreSQL, Neo4j
- **Developer Tools:** Git, Docker, Jenkins (CI/CD)
- **Cloud Platforms:** GCP (Vertex AI, BigQuery), AWS (Sagemaker), HPC Cluster (Cirrus) with SLURM Job Scheduler