MOHITA CHOWDHURY

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Education

University of Oxford, Department of Computer Science — Oxford, UK
Master of Science in Computer Science | *Grade: Merit* — Oct 2020
Relevant Coursework: Advanced Machine Learning, Artificial Intelligence, Computational Game Theory, Probabilistic Model Checking, Probability and Computing,Requirements Engineering

National Institute of Technology Karnataka, Surathkal (NITK) — Surathkal, India
Bachelor of Technology Electronics and Communication Engineering | *GPA:* 9.36/10, *Class Rank:* 6/110 — May 2019

Experience

Ufonia — Oxford, UK
Senior AI Research Engineer — Oct 2020 - Present
- Leading AI R&D to improve Ufonia's conversational assistant for autonomous telemedicine.
- Leading the clinical trial to support the multilingual deployment of the assistant in the Netherlands.
- Reduced deployment time by 60% by streamlining ML training and testing workflows.
- Achieved 98% PII redaction in our production data by developing and deploying our in-house anonymisation model.
- Boosted F1-score in NLU models by over 5% by designing Ufonia's clinician-in-the-loop MLOps pipeline.
- Developed a self-supervised learning-based approach to improve transcriptions in low-data settings.

Nanyang Technological University Singapore — Singapore
Research Assistant at Hardware and Embedded Systems Lab — May 2018 - Jul 2018
- Designed a computationally inexpensive algorithm to remove false positives in foreground detectors for automated nighttime traffic surveillance, in collaboration with TU Munich (TUMCreate Project). View results here.

Indian Institute of Technology, Delhi (IITD) — Delhi, India
Research Intern at Samsung Innovation Lab — May 2017 - Jul 2017
- Designed an algorithm to improve image segmentation in cluttered backgrounds by leveraging depth from stereo image pairs. View results here

Selected Publications

- OW Gardiner, **M Chowdhury**, E Lim, A Higham, N de Pennington *"Can deep learning models understand natural language descriptions of patient symptoms following cataract surgery?"*, Investigative Ophthalmology & Visual Science (an ARVO Journal) 2022, Women in ML Workshop at NeurIPS, 2022.
- **M Chowdhury**, OW Gardiner, Y Miao *"A Simple Phoneme-based Error Simulator for ASR Error Correction"*, Women in ML Workshop at NeurIPS, 2022.
- **M Chowdhury**, H Shah, T Kotian, N Subbalakshmi, SS David, *"Copy-Move Forgery Detection using SIFT and GLCM-based Texture Analysis"*, TENCON - IEEE Region 10 Conference, 2019.

Academic Projects

Zero-shot Human-Object Interaction Detection (ZS - HOID) — Apr 2020 – Sept 2020
- Invented VLS-Net, a model that combines visual, spatial and language modalities and recognises interactions in both fully-supervised and zero-shot settings.
- Surpassed state-of-the-art methods by 8% mAP on 120 zero-shot compositions from the HICO-DET dataset.

Robust Copy-Move Forgery Detection under Multiple Geometrical Transformations — Jul 2018 – Apr 2019
- Devised a framework for robust detection of copy-move forgeries in images. Reduced false positives from 56% to 34.34% on the COVERAGE dataset.

Skills

Programming Languages:	Python, C++, C, TypeScript
Deep Learning:	PyTorch, TensorFlow, TorchServe
Cloud Platforms and Tools:	Rasa, Google Cloud Platform, AWS

Select Awards

- Oxford and Cambridge Society of India Scholarship. — 2019
- NTU-India Connect Scholarship. — 2018