Omkar Kulkarni

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Education

University of Maryland Baltimore County (UMBC) — Baltimore, MD
Doctor of Philosophy (Ph.D) in Computer Science — *Aug 2023 – Dec 2026(Expected)*
Master of Science (MS) in Computer Science — *Jan 2021 – May 2023*

Birla Institute of Technology and Science, Pilani (BITS) — Goa, India
Bachelor of Engineering (B.E) in Computer Science — *Aug 2014 – May 2018*

Publications

1. "3D Reconstruction of the Carotid Artery from Handheld Ultrasound Videos" in proceedings of the *First IEEE Conference of Artificial Intelligence for Medicine, Health, and Care, 2024.* Abhishikta Bandyopadhyay*, Omkar Kulkarni*, and Tim Oates

Experience

Graduate Research Assistant — Baltimore, MD
University of Maryland Baltimore County, CORAL lab — *Jan 2022 – Present*
- Hand-annotated the cross-sectional view of the carotid artery on ultrasound videos and built a deep learning model to mask out the carotid artery, and enerated a 3D visualization of the carotid artery using the segmentation masks and video sequences. See publication 1.

Graduate Teaching Assistant — Baltimore, MD
University of Maryland Baltimore County, CSEE Dept — *Sep 2021 – Dec 2021*
- Responsible for holding office hours and helping students of the 'Practical Deep Learning' course with their questions about the course and homework assignments.

Software Developer — July 2018 – July 2020
Innova Solutions/Transplace 3PL — *Hyderabad, INDIA*
- Feature development and bugfixing: Developed core and customer-specific features, and on bugfixing.
- Configurable Data Validation: Moved from a customer-specific to a templated model to validating initial shipment data from customers, saving 24 hours of development effort for every new customer.

Research exchange student — Jan 2018 – June 2018
Singapore University of Technology and Design — *Singapore*
- Created a dataset containing 30 second samples of hit and non-hit songs, Used the Spotify Web API to obtain music features of the songs, and used machine learning models to classify hit and non-hit songs on The Official Charts' weekly top 100 list. Obtained a 67.17% validation accuracy.

Intern — May 2017 – July 2017
Konnet Solutions — *Pune, INDIA*
- Dataset Generation: Built a dataset of vehicle license plates captured at highway and main roads toll booths.
- Optical Character Recognition: Trained a deep learning model to classify the character in the given picture.

Technical Skills and Certifications

Machine Learning frameworks: PyTorch, TensorFlow, Scikit-Learn, Numpy, OpenCV, Pandas
Languages: Python, C/C++, Java, SQL
Developer Tools: Git, Angular, Spring Framework

Professional Service

Co-Reviewer — July 2022
International Conference on Data Mining

*Equal contribution