FirstName LastName

somePortfolio.github.io

abc@bu.edu || (000) 000-0000 || linkedin.com/in/user-profile || github.com/username || Boston, MA

Professional Experience

Machine Learning Engineer (Contractor) — Remote, USA
100+ year old US based company — *Jun 2023 - Aug 2023*

- Designed **Antler Segmentation & Counting** Algorithm, seamlessly integrating **Object Detection, Semantic Segmentation, and Pose Estimation** using cutting-edge methodologies like **Grounding DINO, SegmentAnything, and ViTPose+**.
- Achieved remarkable Image Enhancement results by training **Super Resolution GANs** on curated wildlife photographs, **upscaling 640x360 images to 2560x1440 resolution**, delivering high-resolution reconstructions across diverse lighting conditions.
- Experimented with state-of-the-art **3D Reconstruction** algorithms like **HumanNeRF and BANMo** aiming to generate intricate 3D digital replicas of antlers from single-camera sourced pictures and videos.
- Successfully demonstrated the feasibility of **Animal Re-Identification** for wild Bucks by building a proof-of-concept leveraging trail camera captured videos.

Computer Vision Engineer and Lead — New Delhi, India
Indian Startup, 100+ Employees - Backed by Sequoia Capital and Titan Capital — *Jun 2019 - Jun 2022*

- Spearheaded a **team of 14 engineers** to develop over 90 real-time video analytics solutions **scaled on Cloud** using Kubernetes for 200+ CCTV cameras, resulting in **increased hygiene compliance by 2x** in the food and hospitality industry.
- Enforced safety & hygiene compliance by developing **multi-object detection & tracking, pose estimation, activity recognition, person re-identification**, and **face recognition** algorithms, deployed across 3 continents reducing non-compliance by 25%+.
- Applied classification, object detection & tracking algorithms like **ResNet, Inception, EfficientNet, EfficientDet, YOLO, Centroid Tracking, and OpenCV Tracking** to satisfy product requirements based on available compute resources.
- Reduced data-to-production time by building development tools for data and models (using Python, Tensorflow, PyTorch & OpenCV) resulting in a **3x increase in productivity**, positively impacting the team's efficiency and **reducing time-to-market by 50%**.
- Implemented **Synthetic Dataset Generation** for object detection, reducing labeled data requirements by 35% and accelerating computer vision model development, resulting in **significant cost savings** and **faster time-to-market**.
- Improved alert precision by up to 95% using **ensemble models** and **temporal features** reducing false positive alerts by 30%.

Academic Experience

Graduate Research Assistant — Boston, MA
Robotics Lab, College of Engineering (COE), Boston University, Advisor: Prof. Name — *Jan 2023 - Present*

- Applied **test-time dropout to Transfuser** (Chitta et al.) pre-trained models to modify model architecture and performance, and to examine the correlation between online and offline evaluation metrics for 36 routes spanning 6 towns in the CARLA simulator.
- Experimented with **sensor fusion using vision and LIDAR-based multi-modal conditional imitation learning** incorporating auxiliary tasks such as **depth estimation** and **semantic segmentation** for autonomous driving in CARLA simulator.
- Explored RegNet and SampleRNN for audio generation from visual scenes for representation pre-training of navigation agents.

Graduate Research Assistant — Boston, MA
Language & Business Lab, Computing & Data Sciences (CDS), Boston University, Advisor: Prof. Name — *Feb 2023 - May 2023*

- Developed rule-based **multi-modal algorithm that leverages text prompts, image tags, and visual features** to assist causal inference on user art study, enabling deeper analysis of user behavior and preferences.
- Developed **ViT and DINOv2-based models using PyTorch** to identify AI-generated Deviant Art and achieved an accuracy of 92.04%.

Undergraduate Research Assistant — Bangalore, India
RNS Institute of Technology, Advisor: Prof. Name — *Feb 2018 - Jun 2019*

- Authored **4 research papers with 95+ citations**; performed comparative study in preprocessing techniques and algorithmic survey in sentiment analysis, forecasting, and encoding.

Skills

- **Languages & Libraries**: Tensorflow, PyTorch, Albumentations, OpenCV, Numpy, Scikit-Learn, Pandas, PIL, Matplotlib, Python, C++
- **Tools & Platforms**: Docker, CARLA, TensorRT, ONNX, Intel OpenVINO, Nvidia Triton, Tensorflow Serving, Linux, AWS, Azure

Education

- **Boston University, Graduate School of Arts & Sciences (GRS)** — Boston, MA
  Master of Science (MS) - Artificial Intelligence (GPA: 3.90/4.00) — *Expected May 2024*
  Courses: *Robot Learning & Vision for Navigation, Computer Vision, Geometric Processing, Principles of Machine Learning, Data Science Tools*

- **Visvesvaraya Technological University (VTU), RNS Institute of Technology** — Bangalore, India
  Bachelor of Engineering (BE) - Electronics & Communication Engineering — *Aug 2015 - Jul 2019*
  Awards: *Best Outgoing Student - 2019; First Prize in State Project Competition for 'Automatic Helmetless Rider Detection using Deep Learning'*