ANINDA GHOSH

+1(623) 283-8611 ◇ Tempe, AZ ◇ aghosh57@asu.edu ◇ linkedin.com/in/aninda-ghosh ◇ aninda-ghosh.github.io

EDUCATION

MS. in Robotics & Autonomous Systems (AI), Arizona State University   **May 2024**
B.Tech in Electronics & Communication Engineering, West Bengal University of Technology   2012 - 2016

ACADEMIC EXPERIENCE

Graduate Research Assistant   **May 2023 - Present**
Arizona State University   *Tempe, AZ*

- Improved remote sensing model accuracy by 34% using text prompts and semi-supervised learning.
- Boosted field boundary segmentation IoU by 22% in data-scarce regions with transfer learning.
- Co-created satellite imagery benchmark dataset with NASA for weak/unlabeled data on ML Commons.

PROFESSIONAL EXPERIENCE

Software Development Engineer / Applied Machine Learning Engineer   **Nov 2020 - Jul 2022**
Praesus Technologies Pvt. Ltd. (Altor), VC Backed StartUp   *Bangalore, India*

- Led a team of 15 engineers to create India's first smart helmet ecosystem, revolutionizing road safety.
- Curated 75GB IMU data, powering deep learning models for ride profiling & accident detection.
- Trained and deployed BERT-based LLM in mobile devices for accident detection, with a future of LLM integration.
- Optimized Data Science pipelines with JIT compilation for 70% runtime reduction, driving the reporting engine.
- Uncovered cost inefficiencies through TB-scale data analysis, enabling a 60% cloud cost reduction via AWS Lambda pipeline autoscaling.
- Trained and deployed Supervised & unsupervised ML models analyzing 300k riders for valuable product insights.
- Architected scalable Python+Flask backend with reporting engine on Docker Swarm/AWS for 300k users.
- Designed and pruned a Deep Learning model for ARM-based chips, achieving 95%+ human head detection accuracy in smart helmets for hands-free navigation and safety.

Senior Application Engineer   **Mar 2020 - Oct 2020**
L&T Technology Service Limited   *Bangalore, India*

- Automated deployments with shell scripts for Just-In-Time device provisioning, for remote locations.
- Automated report generation using Kafka, AWS Glue, and AWS Athena, reducing reporting time by 70% through the elimination of manual processes.
- Led the team in cloud deployments in Docker and later in Kubernetes for analyzing Fit-Bit data for the business use case.
- Enhanced the CI/CD pipeline by automating Kubernetes pod deployment with helm charts.

Embedded Software Engineer (Research & Development)   **Jan 2017 - Feb 2020**
Distronix LLC.   *Kolkata, India*

- Led a team of 5 members responsible for small-scale manufacturing and deployments.
- Ported an open-source Pub-Sub stack to C++ for efficient data transmission over Kafka streams, involving modifications to the TCP/IP stack.

SKILLS

- **Languages / Frameworks:** Python, C/C++, PyTorch, scikit-learn, NumPy, Pandas, OpenCV, Matplotlib
- **Data Analysis / Processing:** Data Visualization, Data Mining, Feature Engineering, Statistical Analysis
- **Cloud Computing / DevOps:** AWS, Azure, Docker, Docker Swarm, Git, Kubernetes, Apache Airflow

PERSONAL PROJECTS

- **Bridging the gap between RGB and Event Cameras**: Mitigated unlabeled data challenges by transferring domain knowledge from RGB to the Event Camera Domain, upgrading the model backbone to ResNeXt-152 (64x4d) with GELU activation. Achieved a 5% accuracy boost and 48% training time reduction in the baseline deep learning model. (Github) (Jan - Apr, 2023)