Nikhil Bola Kamath

Los Angeles, CA
Email : nikhilbo@usc.edu
Mobile : +1-213-519-8644
Portfolio: https://www.nikhilkamathb.com
Github: https://github.com/NikhilKamathB
Linkedin: https://www.linkedin.com/in/nikhilkamathb

Summary

As a Machine Learning Engineer with over 1.5 years of experience, I have a proven track record in developing end-to-end machine learning pipelines and producing high-quality, maintainable code. I excel in collaborating with others and dedicated to creating code that is easy for my colleagues to understand and utilize. I am eager to take on an ML internship and continue growing in the field.

Education

University of Southern California — Los Angeles, CA
Master of Science in Computer Science - Artificial Intelligence; ***GPA: 3.85/4.0*** — *Aug 2022 - Present*
Courses : Foundations of Artificial Intelligence, Machine Learning, Algorithms, Web Technologies

NMAM Institute of Technology — Nitte, India
Bachelor of Engineering in Computer Science and Engineering; ***GPA: 9.59/10*** — *Aug 2016 - Aug 2020*
Courses : Deep Learning, Data Structures & Algorithms, Business Intelligence, Data Analytics, RDBMS

Skills

Languages : Python, Dart, Java, C, C++, SQL, Javascript, Swift, HTML, CSS.
Frameworks & Tools : PyTorch, PyTorch Lightning, TensorFlow, Keras, JAX, Docker, Kubernetes, Git, Django, Flask, MongoDB, PostgreSQL, NodeJS, React, Flutter, GCP (Vertex AI and AI Platform), AWS, Azure (ML).

Experience

Robotics Embedded System Labs (USC) — Research Assistant — Oct 2022 - Present
- Conducting literature review and implementing target tracking algorithms that aim to deceive the tracked objects and try to force them into desired states while they are responding to tracking robots and taking cover.

Insureka | Someshwara Software — Machine Learning Engineer — Dec 2020 - Jul 2022
- Incorporated MLOps to design an OCR pipeline that captured information from Indonesian govt IDs using text detection, recognition and entity association.
- Developed and hosted a web-based tool for annotating key points on vehicles, which helped solve the 2D to 3D mapping problem.
- Used the resulting data to build a pose estimation model for vehicles that enabled user-guided image capture of various parts of the vehicle.
- Created automated scripts using Fabric and set up CI/CD to streamline the deployment of web apps. Dockerized containers on Kubernetes significantly reducing the time and effort invested by the team.
- Designed Restful APIs and an analytic dashboard using Superset for virtual exhibitions that hosted govt organizations and conferences.
- Built a web application for the State Bank of India using Django, which increased their regional customer acquisition by 10%.

Bharat Electronics Limited — Student Intern — May 2019 - Jun 2019
- Built a web application using HTML, CSS and JavaScript that allowed devotees to conveniently manage religious events on campus. The application was backed by MongoDB supporting CRUD operations.

School of Information Science — Research Intern — Jun 2018 - Jul 2018
- Developed an AI application with python that used Support Vector Machines (SVM) to detect trigger words in user speech and perform speaker recognition to execute control commands for an Arduino-controlled prototype.

Projects

Self-Driving Car | *Recognized for publication in the MDPI Sensors Journal*
- Designed and built a level-3 autonomous vehicle on the Carla Simulator which included image processing, motion planning, state estimation and localization.
- Annotated a custom dataset for visual perception stack leading to improved IOU and accuracy by $\approx 5\%$.
- Introduced a novel method to handle sensor failures and share inferred knowledge across various agents in the environment for efficient decision-making.

Image Cipher
- Developed an innovative data security application using image fusion technology, which generated a unique, uncrackable pattern for every session among trillions of possible combinations, preventing data breaches.

EMIO | *Patent under review*
- Developed an efficient Flutter application that utilizes QR code to quickly retrieve data from non-relational databases, resulting in an improved and streamlined user experience.