Amitoj Battu

Groningen, Netherlands | +31687546522
abattu1997@gmail.com | asbattu.com
github | linkedin

Summary

I'm a passionate AI developer, with experience in Robotics and Electronics development, valuing intense working environments while collaborating with a dedicated team. I am looking for a role where I can develop ideas and shine with my ability in scripting and an overall broad skill set, contributing to the development cycle of the project and produce an effective, finished product.

Education

M.Sc in Artificial Intelligence *2020-Ongoing*

University of Groningen

B.Tech in Mechatronics Engineering *2015-2019*

Manipal University Jaipur, Jaipur, India

Skills

Programming Languages Python | C++ | Embedded C | PLC Ladder Logic | KUKA Robot language

Frameworks & Libraries Tensorflow | Pytorch | SKlearn | Flask | Keras | Numpy | ROS | Pandas | Gym
Autodesk Fusion | Siemens S7-200 | MATLAB | LabVIEW | Arduino | RaspberryPi
AVR microcontroller | KUKA | Git | Docker | LaTeX

Projects

Communication in Human-Robot Collaboration

Master Thesis project - Developing a gesture recognition pipeline to improve communication between human and TIAGo robot collaborating in a transportation task. Researching a novel communication method using the robotic arm and a custom point&target method. Based on ROS, Python/C++, Tensorflow via Docker, Image recognition and Time-series classification.

ROS

Developed a robot to perform SLAM of the environment in Gazebo, further use the map to navigate to key-locations for grasping recognized objects through object recognition | Robotic arm simulation to pick and place cubes | Developing custom modules to control 'Moorebot Scout' over ROS.

Deep Learning

Handwriting recognition on the Dead Sea scrolls | Audio classifier using DeepCNN | Iris detection model | ASL to text converter | NLP twitter sentiment analysis | Music generation using RNN.

GANs

Trained deep CNN model to generate handwritten MNIST digits using GAN and DCGAN | Trained CycleGAN model performing style transfer | Autoencoder model to generate MNIST fashion dataset | WGAN implementation to generate Van Gogh paintings.

Reinforcement Learning

Developed custom environment(FlappyBird) to train agents using Pygame, implemented using NEAT algorithm | Lunar-Lander environment | Q-Learning frozen-lake environment | Deep Q-Learning for Atari games | Unity MLAgents | Policy gradient with PyTorch | A2C for Robotic Simulation in PyBullet.

Metal Additive Manufacturing

Bachelor Thesis project - Using custom written algorithm, converted CAD models into Gcodes, further Gcodes into KUKA robot language, and by using the weld deposit of the welding gun mounted atop the arm, re-created the CAD model layer by layer - 3D printing metallic objects.

MicroControllers & MicroProcessors

Programmed KUKA robotic arm to palletize cubes in various patterns | Created 5 DOF robotic arm | RFID based E-passport | PLC based traffic density control | Biometric security system | Theo Jansen walking mechanism | 11 Segment 6 digit display.

Extra

- Medical Publications in India: DOI, DOI, DOI.
- Volunteered in the local chapter of UNICEF(Groningen) as the Sub-committee Secretary.
- Admirer of the Asterix & Obelix comics and The Simpsons.