Shubham Singhal

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SUMMARY

Passionate robotic engineer with expertise in machine learning and robotics, skilled in Python, C++, TensorFlow, ROS, and various ML libraries. Proven experience in optimizing and deploying robotic systems and machine learning models. Quick learner with a track record of rapidly mastering new technologies and concepts. Seeking a challenging role to leverage my skills and contribute to innovative projects.

TECHNICAL SKILLS

Programming Languages: Python, C++, C#, SQL, MATLAB

Machine Learning Frameworks: TensorFlow, PyTorch, Keras

Robotics: ROS, Solidworks, Arduino

Libraries & Tools: OpenCV, NumPy, Pandas, Sklearn, Seaborn, Git, Docker

Data Analytics: Adobe CJA, Stata

Web Development: Flask, JavaScript, HTML, CSS, Bootstrap, NodeJS

Blockchain: Solidity, Ethereum

Automation: Selenium

EXPERIENCE

Ugo, inc   Tokyo, Japan
Robotics & Machine Learning Internship - Online   *May 2023 – Jun 2023*
- Achieved a 3X performance boost in the Elevator Button Detection Problem by experimenting on Data Augmentation techniques.
- Explored Tensor RT SDK and converted YOLO models to ONNX format for optimization on Jetson Nano.
- Implemented RMF Core and task dispatcher mechanisms for a collective robot control problem using ROS 2 Humble and Gazebo Fortress/Ignition.

Certificate ⎋

Ugo, inc   Tokyo, Japan
Robotics Engineering Internship - On-Site   *June 2023 – July 2023*
- Developed and deployed automated navigation on a robotic kart using the Autonomous Navigation Stack and mapping on Jetson Nano and Khadas Vim3 in just 24 days, resulting in a 20% increase in operational efficiency.
- Created a virtual robot model (URDF) and nodes to publish LiDAR scan data and obtain encoder data.
- Built a .NET C# server on the Nano and NATS server for publishing navigation data.
- Utilized HectorSLAM for map creation and Monte Carlo localization (MCL) for navigation.

Certificate ⎋

Amazon ML School   India
Mentee   *June 2022 – July 2022*
- Mastered essential ML concepts and collaborated with Amazon Scientists on cutting-edge ML advancements.
- Strengthened understanding of Supervised Learning, Deep Neural Networks, Dimensionality Reduction, Unsupervised Learning, Probabilistic Graphical Models, Sequential Learning, Causal Inference, and Reinforcement Learning.
- Applied theoretical knowledge to real-world industry cases.

Certificate ⎋

BeingArtifex, IIT(ISM) Dhanbad   India
Mentor   *Apr 2021 – June 2021*
- Mentored over 1000 students in Python Programming, Arduino, IOT, C++ Programming, Photoshop, Illustrator, Figma, Canva, Public Speaking, and Management.

EDUCATION

Indian Institute of Technology (ISM), Dhanbad   Dhanbad, India
B.Tech - Mechanical Engineering   *Dec 2020 – May 2024*

Sadguru Public Sr. Sec. School   Jaipur, India
12th Grade (93.2%)   *Apr 2019 – Apr 2020*

St. Mary's Convent Sr. Sec. School   Jaipur, India
10th Grade (92%)   *Apr 2017 – Apr 2018*

ACHIEVEMENTS

- Mentee at Amazon Machine Learning Summer School for 2022 **Certificate** ↗.

- Flipkart GRiD 4.0 — National Semi-Finalist: Developed a blockchain-based e-commerce warranty system using NFTs. **Certificate** ↗.

- Gold Badge at Hackerrank in Problem Solving.

LEADERSHIP POSITIONS / CLUBS

Promotion & Media Coordinator at (ACIC), Atal Community Innovation Centre, IIT(ISM) foundation under the Atal Innovation Mission (AIM), NITI Aayog, Govt. of India.

Event Coordinator for Skillathon 2.0 and **Head of Graphic Design Division** at Being Artifex IIT (ISM) Dhanbad.

Videography / Motion-Graphics Lead at ASTC - the Official Aerospace and Space Technology club of IIT (ISM) Dhanbad.

CERTIFICATIONS

- Introduction to Deep Learning, Kaggle **Certificate** ↗

- Introduction to Machine Learning, Kaggle **Certificate** ↗

- Intermediate Machine Learning, Kaggle **Certificate** ↗

- Simulink Onramp (Mathworks) **Certificate** ↗

- MATLAB Onramp (Mathworks) **Certificate** ↗