Sagnik Ghatak

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About Me

I am an aspiring AI researcher with a strong background in machine learning and a keen interest in advancing autonomous systems. I am passionate about developing intelligent, self-sustaining technologies and eager to contribute to innovative AI-driven projects. I am motivated by the intersection of research and real-world application and, am actively working towards building a career in this exciting field.

Portfolio

- **Github**
- **LinkedIn**

Skills Summary

Languages: Python, SQL, C/C++, Unix/Bash Scripting

Frameworks: Pandas, Numpy, Scikit-Learn, Matplotlib, ROS2, PyTorch, Flask

Simulation: Gazebo, Simulink

Platforms: PyCharm, Jupyter Notebook, Visual Studio Code

Technical Skills: Mapping, Localization and Path Planning, Reinforcement Learning, Machine Learning and Data Science, Exploratory Data Analysis and Data Visualization, Data Pre-processing and Feature Engineering

Soft Skills: Problem Solving, Communication.

Work Experience

Cognizant India   **Kolkata, India**
Programmer Analyst   *October 2021 – September 2023*

- Engineered ETL processes with Informatica PowerCenter, cutting data processing time by 30%.
- Automated tasks with UNIX and Python scripts, reducing manual intervention by 60%
- Enhanced database performance by 20% with optimized SQL queries, decreasing execution time by 15%.

PrepInsta India   **Remote**
Intern   *January 2021 – July 2021*

- Developed TypeScript-based web applications, delivering user-centric features and enhancements to improve overall user experience.
- Collaborated closely with design and product teams to translate UI/UX designs into high-quality, pixel-perfect HTML and CSS code, ensuring consistency across platforms and browsers.

Achievements/Recognition

Cognizant Cheers (Cognizant)
Recognized for an invaluable contribution to project implementation   *December 2022*

Education

M.Eng - **AI Engineering of Autonomus Systems**   **Ingolstadt, Deutschland**
Technische Hochschule Ingolstadt   *October 2023 – Present*

B.Tech - **Electrical Engineering**   **Kolkata, India**
St. Thomas' College of Engineering and Technology   *August 2017 – June 2021*

Voluntary Work

Schanzer Racing Electric e.V. - Technische Hochschule Ingolstadt   **Ingolstadt, Deutschland**
Team Member - Driverless   *March 2024 – August 2024*
- Designed a dual Extended Kalman Filter (EKF) system for robust sensor fusion, integrating steering angle sensors, wheel odometry, and GPS data to enhance vehicle state estimation.
- Designed a path planning algorithm for autonomous driving in dynamic environments to generate optimized paths for acceleration and maneuvering, ensuring precise and adaptive navigation.

Certificates

Azure Data Fundamentals (Microsoft)

Supervised Machine Learning: Regression and Classification (DeepLearning.AI)

Advanced Learning Algorithms (DeepLearning.AI)