

Sagar Vincent

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EDUCATION

UNIVERSITY OF BIRMINGHAM

MSc IN ROBOTICS

Sept 2023 | Birmingham, UK

Grade: Merit

KERALA TECHINICAL UNIVERSITY

B.TECH IN MECHANICAL

ENGINEERING

Sept 2020 | Kerala, India

Viswajyothi College of Engineering

CGPA: 7.93/10

ST.GEORGE HSS

May 2016 | Kerala, India | 9.29/10

LINKS

Github: github.com/sagarvincent

LinkedIn: [linkedin.com/in/sagarvincent](https://www.linkedin.com/in/sagarvincent)

COURSEWORK

GRADUATE

Machine Learning and Intelligent Data Analysis

Neural Computation

Intelligent Robotics

Advanced Robotics

Robot Vision

Evolutionary Computation

UNDERGRADUATE

Object Oriented Programming

Calculus + Linear Algebra + Probability

Machine Design

Computer-Aided Design

Engineering Management

(Robotics club)

Operating System and networking concepts

Linux cmd

SKILLS

PROGRAMMING

Python • Bash • C++ • Java • Matlab

Scripting • Linux • SQL

FRAMEWORKS

Pytorch • ROS • OpenCV

TOOLS/SOFTWARES

Git • Fusion360 • Latex

CLOUD DEPLOYMENT

AWS • Docker • Kubernetes

WORK EXPERIENCE

UNIVERSITY OF BIRMINGHAM | MACHINE LEARNING ENGINEER

Nov 2023 – present | Birmingham, UK

- working with **Dr. Mohan Sridharan** on robot-assisted surgery data to derive a relation between OPIs and surgical system data.
- currently engineering the raw data from surgeries, using ML techniques and hypothesis testing to identify patterns and correlations among OPIs.

COGNIZANT TECHNOLOGY SOLUTIONS | PROGRAMMER ANALYST

Dec 2020 – June 2022 | Bangalore, India

- Using Java and SQL to design and debug workflows in IBM ACE so as to connect and allow proper data flow between app endpoints.
- Creating documentation to support the work done in a fast-paced manner, collaborating with several teams in the project for problem-solving and troubleshooting.

RELEVANT PROJECTS AND HACKATHONS

TRANSFORMERS BASED COOKING ASSISTANT | PORTFOLIO

Jan 2023 - present | Remote

- This is a project aimed at developing an assistant for cooking based on transformers and reasoning.
- Currently designing a pipeline for migrating data from an offline source to a database in AWS.

INFERENCE METHODS FOR REASONING BASED AD-HOC

AGENT MODELING | DISSERTATION

June - September 2023 | University of Birmingham, UK

- Worked with **Dr. Mohan Sridharan** to develop an agent behavior inference model that can be used to predict the robot's behavior.
- Conducted an extensive literature review on ad-hoc agent modeling. Implemented BREMEN, M-learning, and Vanilla Decision Trees and was able to generate 30% better performance.
- Fine-tuned the model parameters and adopted the model by relaxing certain assumptions to suit that of the ad-hoc scenario.
- Integrated the developed model with the HFO package to enable real-time predictions of other agent actions.

BEAR HACKATHON(RUNNERS UP) | SOLUTION ARCHITECT

June 2023 | University of Birmingham, UK

- We were a team of 5, and I had the duty to brainstorm and design solutions
- Worked on a High-performance cluster(HPC), on different challenges like scheduling jobs on multi-node-Multi-GPU scenarios and training deep neural networks for medical image classification.
- Learned to control HPC systems remotely using SSH through the terminal.
- completed the competition as runners-up

INTELLIGENT HOTEL ROOM DELIVERY ROBOT | TEAM LEAD, REINFORCEMENT LEARNING ENGINEER

Nov 2022 – Dec 2022 | Birmingham, UK

- Designed and optimized SARSA and Q-learning algorithm for enabling a robot to choose the shortest delivery route. Both algorithms were written from scratch without any third-party libraries.
- Integrated the robot designed in Fusion360, to ROS using the navigation stack to enable it to perform SLAM.
- Documented and created a report on the project development explaining the design considerations and decisions.

LEADERSHIP AND VOLUNTEERING

UNIVERSITY OF BIRMINGHAM | STUDENT AMBASSADOR

Dec 2022 – Present | Birmingham, UK

VJCET ROBOTICS CLUB | FOUNDING MEMBER, VICE PRESIDENT

Jun. 2017 – jun 2019

- Founded the club in 2017
- Worked with **Prof.Unnikrishnan TJ** to create **AUTOBOT**, a robot designed to remove weeds from shrub plantations with minimal human interaction, which won several prizes in intercollege and national-level competitions.
- Orchestrated a series of workshops, coding sessions, and events to enhance skills and encourage continuous learning.

AWARDS

2019 Best performing student Viswajyothi College of Engineering and Technology

2018 1st prize in project expo NIT, Calicut

SHORT OVERVIEW

A Robotics Engineer, with a firm technical grasp on the theory and practical aspects of AI and software engineering. I am excellent at designing and implementing machine learning, deep learning, and reinforcement learning algorithms. Apart from the core algorithms, I can also engineer the support services required for the deployment of these models for real-world impact. My belief in being a lifelong learner and in self-learning is reflected throughout my academic journey. I learned programming and most of the concepts in software engineering on my own. As a determined, passionate, and enthusiastic individual, I am looking for dynamic opportunities in AI/ML as well as engineering domain.