

# Akshet Patel

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## EDUCATION

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- **University College London (UCL)** London, United Kingdom  
• *Master of Science (MSc) - Robotics and Computation; Grade - Distinction* September 2022 - September 2023  
*Dissertation: Chemical Source Estimation and Localisation using Active Deep Reinforcement Learning*
- **Manipal University Jaipur** Jaipur, India  
• *Bachelor of Technology - Mechatronics Engineering; GPA: 9.76/10* July 2018 - July 2022  
*Dissertation: TeleSurgery: A Proof of Concept*

## SKILLS SUMMARY

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- **Languages** Python, C++, MATLAB, C#, TypeScript,
- **Development Boards** Arduino Uno/Mega, ESP8266, ESP32, Intel Edison, Intel Galileo, Seed Studio Boards, Raspberry Pi
- **Frameworks** Robot Operating System (ROS), Real-Time Operating System (RTOS), TensorFlow, Keras, PyTorch, NumPy, Matplotlib, React, Node.js
- **Industry Skills** CAN, Ethernet, Modbus, Tia Portal, Siemens S7-1200, IEC 61131-3 Standard
- **Tools** Git, Docker, AWS, Google Cloud, PostgreSQL, MySQL, Firebase

## EXPERIENCE

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- **Sunsynk, United Kingdom**  
• *Control Systems and Software Engineer* August 2023 - Present
  - OCPP Development, EV Charger Management, Energy Management Systems Development
  - Coding the S7-1200 and ET200SP PLCs
  - Applying Machine Learning on collected Photovoltaic (PV) data for bill and energy usage estimations
- **Nanyang Technological University (NTU), Singapore**  
• *Visiting Student Researcher* Jan 2022 - June 2022
  - Developed the Proof of Concept for TeleSurgery using Virtual Reality and Robotics via Robot Operating System (ROS) and deployed it on the Meta Quest Headset.
- **National Institute of Oceanography (NIO) - CSIR, India**  
• *Project Intern* Dec 2021 - Jan 2022
  - Developed a Robot Operating System (ROS) package to create the Bathymetric Map of the seabed by the data captured by the Doppler Velocity Log (DVL) sensor.

## PROJECTS

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- **Duckietown** - Adding ROS 2 compatibility to the Duckiebots. (March 2024)
- **Pick and Place using Panda Arm** - Performed pick and place tasks in Gazebo, using MoveIt! to move the robot and Point Cloud Library (PCL) and OpenCV to detect object positions and colours. (March 2023)
- **Creating a Bathymetric Map of the Seabed Using DVL Sensor Data** - Created a bathymetric map of the seabed using the data captured by the DVL sensor and create a ROS Package for the same. ( January 2022)

## PATENT

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- Randhawa, P., **Patel, A.**, Pallikonda, R., H C, S. (2022) Low-Cost IoT Enabled Anti-Theft Device for Two-Wheeled Vehicles. 2022/02843. 22: 2022/03/09. 43: 2022/05/25. B60R. Available at: <https://iponline.cipc.co.za/>

## PUBLICATIONS

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- Chowdhury, S.R. and **Patel, A.**, 2022. [Role of Internet of Things \(IoT\) in Electronic Waste Management](#) Industrial Internet of Things: Technologies and Research Directions, p.21.
- Randhawa, P., **Patel, A.**, and Dasari, U., 2022, March. [A Machine Learning based Approach for Classification of a Person's Actions based on Electromyography \(EMG\) Signals](#) In 2022 9th International Conference on Computing for Sustainable Global Development (INDIACom) (pp. 802-807). IEEE.
- Tsaramirsis, K., **Patel, A.**, Sharma, P., Reddy, N., Princy, R., Tsaramirsis, G., Pavlopoulou, A., Koçer, Z.A. and Piromalis, D., 2021. [Bio-virus spread simulation in real 3D space using augmented reality](#). *Engineered Science*, 16, pp.319-330.
- **Patel, A.**, Sharma, P. and Randhawa, P., 2021, September. [MedBuddy: The Medicine Delivery Robot](#) In 2021 9th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)(ICRITO) (pp. 1-4). IEEE.
- **Patel, A.**, Shanmugapriya, D., Srivastava, G. and Lin, J.C.W., 2021. [Routing Protocol Security for Low-Power and Lossy Networks in the Internet of Things](#) In Big Data Analytics: 9th International Conference, BDA 2021, Virtual Event, December 15-18, 2021, Proceedings 9 (pp. 133-145). Springer International Publishing.
- Shanmugapriya, D., **Patel, A.**, Srivastava, G. and Lin, J.C.W., 2021. [MQTT protocol use cases in the Internet of Things](#) In Big Data Analytics: 9th International Conference, BDA 2021, Virtual Event, December 15-18, 2021, Proceedings 9 (pp. 146-162). Springer International Publishing.