

SUBASH GAUTAM

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PROFESSIONAL SUMMARY

Multidisciplinary engineer and researcher with a doctoral degree in Mechanical, Mechatronics and Manufacturing engineering. I bring expertise in robotics, computer vision and machine learning with over six years of experience in Electronics Engineering and Information and Communication Technology. I possess extensive knowledge and hands-on experience in vision system, software development, embedded systems and process automation. I envision leading pioneering projects that advance technology and improve real-world applications.

SKILLS

Robotics: ABB, KUKA, Fanuc (programming & integration)

Vision Systems: RealSense, ScanCONTROL, Cognex, Baumer (setup, calibration, and deployment)

Simulation Tools: RobotStudio, KUKA Sim, Custom simulation in C++

Software: Office 365, SolidWorks, AutoCAD, CloudCompare, Proteus, Altium, OpenCV, OpenGL, Qt

Programming Language: C, C++, C#, Python, Java, HTML, CSS

ML Modules: PyTorch, TensorFlow, Keras, Scikit-learn, NumPy, Pandas, Matplotlib

Soft Skills: Technical support, Customer Support, Problem Solving, Troubleshooting

EXPERIENCE

Research Fellow-Centre for Urban Research (Jul 2025 – to date)

RMIT University | La Trobe Street, VIC, 3000

- Develop and validate an automated methodology for converting 2D architectural floor plans images supporting scalable assessment of apartment design policy compliance for The HIGH LIFE Study at RMIT's Centre for Urban Research.

Casual Sessional-Mechanical, Manufacturing & Mechatronics Engineering (Jul 2024 – to date)

RMIT University, La Trobe Street, VIC, 3000

- Ensure that all robots (ABB, UR), sensors (camera), computers, and other necessary tools (Grippers) are correctly set up and functioning before each lab session.
- Teach students how to use robotics tools and equipment appropriately and safely.

Postgraduate student (Feb 2021 – June 2025)

CSIRO, Clayton, VIC, 3168

- Designed and commissioned custom vision system and integrated with ABB robot (IRB 4600) and scanCONTROL 2900-100 laser profiler.
- Developed code for performing hand-eye calibration and a simulation program.

Tutor and Laboratory Demonstrator | C, C++, Python, Embedded systems (Feb 2020 – Oct 2023)

La Trobe University | Bundoora, VIC, 3086

- Taught and demonstrated key concepts of C, C++, and Python programming languages to undergraduate students, focusing on algorithm development, data structures, and object-oriented programming.
- Developed and delivered hands-on lab sessions where students programmed real-world applications, enhancing their understanding of programming languages for embedded systems and automation.

IT Support Officer (Nov 2017 - Jan 2020)

H&M Professional Computer

- Provided comprehensive network support and configuration services, specializing in routing, switching, and IP networks, ensuring seamless communication between critical systems for clients.
- Supports and maintains user account information, including rights, security and systems groups.

Chief Technical Officer (June 2014 - Aug 2017)

Gadgets and Gizmos Traders, Kathmandu, Nepal

- Designed, integrated and deployed advanced CCTV systems (Hikvision, Dahua) for commercial and security applications.
- Led the design, installation, and commissioning of solar PV systems for residential, commercial, and industrial clients, ensuring optimal energy production and system efficiency.

Assistant Lecturer (Nov 2014 - Jul 2017)

Acme Engineering College, Kathmandu, Nepal

- Lecturing and conducting research in the Department of Computer and Electronics & Communication Engineering.
- Supervise students' work, provide advice on study skills and help them with learning problems.

EDUCATION

PhD in Mechanical, Mechatronics and Manufacturing (2021 - 2025)

RMIT University

- **Robotic 3D Vision:** Robotic hand-eye calibration of multiple laser profilers focusing on the deposition substrate.
- **Defect detection:** Detection of geometric defects in-process during additive manufacturing.

Master of Information and Communication Technology (2017- 2019)

La Trobe University

- Achieved an average of **88.25%** WAM (Weighted average mark).
- Membership of Golden Key International Honour Society based on **top 15% academic achievement** validated by La Trobe University 2019.

Bachelor of Electronics and Communication Engineering (2009-2014)

Purbanchal University

- Final year project proceeding in IEEE Xplore (<https://doi.org/10.1109/ICRERA.2016.7884494>).

HONOUR AND AWARD

Non-Resident Nepali Association Australia Academic Excellence Award (2020)

- Academic Excellence Award presented by the Non-resident Nepali Association Australia for outstanding performance during master's degree.

Golden Key International Honour Society Membership(2019)

- Membership is based on the top 15% of academic achievement validated by La Trobe University in 2019.

Outstanding Implementation for campus IPv6 Deployment(2019)

- Certificate awarded for Outstanding Implementation for campus IPv6 Deployment on 26th Annual La Trobe University Engineering and IT Showcase.

Best Project Award(2014)

- Best project award awarded by the Department of Electronics and Communication Engineering, Acme Engineering College, Purbanchal University, 2014.

National Level Robotics Competition Winner(2013)

- Winner of NCIT ROBO Drive 2013, organised by the National College of Information Technology.

TRAINING AND PARTICIPATION

- Training on **Compressed Gas Awareness** (June 2, 2021) (Health, Safety and Environment | CSIRO)
- Course for **Operator Laser safety– Level 3** (Opticum laser safety) (June 15, 2021)
- Participation in YANTRA 2.0, **National Robotic Competition** (2013).
- Participation in eSewa Yantra GRC Techkriti Nepal(2013), a **National robotic competition**.
- Participation in **ARDUINO ROBOTIC WORKSHOP**. (Robotics Association of Nepal) (2012).
- Participation in the **International Autonomous Robotic Competition** organised in TECHKRITI'13, Annual Technical and Entrepreneurial Festival of IIT Kanpur. (14-17 March ,2013).

TEAMWORK

- Collaborated with a multidisciplinary team to develop a novel robot hand-eye calibration algorithm and simulation environment using a C++ program.
- Contributed to problem-solving efforts in group settings, helping to refine prototypes and achieve successful outcomes in challenging projects during the final year project.
- Developed team-leading skills, including motivating team members to perform well through my role as a Team Leader in the robotics club.