Tan Huynh

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MECHATRONICS ENGINEER

Career Objective

Passionate Automation Engineer and Robotics Enthusiast with a strong background in designing, developing, and implementing automated processes to improve production systems. I am committed to applying my knowledge and skills to create innovative and sustainable automation and robotics products.

I am currently residing in Australia under a **485 Temporary Graduate visa**, which grants me **full working rights** until **September 2027**. Upon the expiration of my current visa, I intend to apply for the **PR Skilled Independent 189 Visa** to continue my professional journey in Australia.

Experience

Vow | Industrial Mechatronics Engineer (Contract)   **June 2023 – Now**
- Collaborated with experienced engineers to construct the world's largest 15kL bioreactor.

- Key personnel for maintaining electrical and mechanical components of bioreactors with capacities of 200L, 2kL, and 15kL. Ensures optimal performance and longevity of these crucial equipment in the cultured meat production process.

- Diagnosed and resolved issues with automated systems, utilizing diagnostic tools and root cause analysis techniques. This led to successful seeding and sterile maintenance of the 15kL bioreactor.

- Leveraged PLC, HMI, SCADA, and motion controller programming skills on the Siemens platform to design and build a fully automated system for a 2kL media mixer. This automated media mixing system significantly improved operator performance by 40%, enhanced safety by 30%, and saved 45 minutes during operation.

- Utilized project management skills to ensure timely completion of the media mixer design and commission within a 4-week timeframe, while maintaining alignment with stakeholder expectations and requirements. Effective communication of system status and maintenance schedules was also a key aspect of this role.

- Leverage Electrical Design skills to maintain system performance. Ensure system safety and reliability through experience with Control and Safety Systems.

- Comply with established safety protocols and standard operating procedures. Responsible for the creation of essential documentation, including functional descriptions, as well as user and maintenance manuals.

UTS Robotics Institute | Research Assistant   **June 2022 – June 2023**
- Developed an optimised SLAM system for Minimal Invasive Surgery equipment, contributing to advancements in medical technology.

- Utilised embedded C/C++ with Raspberry Pi to create platforms that mimic the interior of the human body, enhancing the realism and effectiveness of the SLAM system.

- Participated in cutting-edge research projects in robotics, artificial intelligence, and human-robot interaction under the supervision of leading experts in the field, gaining valuable insights and experience.

- Designed an optimisation algorithm to integrate an additional sensor into the ORB-SLAM3 system, enhancing its functionality and performance.

- Contributed to the development and improvement of ORB-SLAM3 by adding new features, fixing bugs, and optimising performance, demonstrating a commitment to continuous learning and improvement.

Van Khanh M&E | Industrial Electrical Supervisor and Designer Intern   **July 2019 – Mar 2020**
- Designed 2D and 3D drawings for the company's clients.

- Designed the company's weatherproof electrical boxes and brainstormed innovative concepts.

- Collaborated closely with the process team to collect real-world work experience.

Professional Skills

Coding languages:

- Mastered programming languages C, C++, Python, MATLAB and PLC/HMI/SCADA with different frameworks: TIA Portal, Visual Studio, MATLAB, Arduino IDE, SolidWorks, Autodesk (AutoCAD), MS Office.
- Completing AI and Machine Learning with Python online course.
- Experienced in embedded C/C++ with Raspberry Pi 4/5.
- Experienced in developing and optimising robotic vision, Simultaneous Localisation and Mapping (SLAM) and collaborate SLAM system.
- Working knowledge of VPC and Linux platform.

Electrical Diagrams Design:

- Basic knowledge of designing electrical diagrams, contributing to a comprehensive understanding of system design and integration.

3D Modeling:

- Professional in SolidWorks (CSWP: Professional)

Education

Bachelor of Engineering (Honours) in Mechatronics Engineering   **Nov 2020 – Jun 2023**

University of Technology Sydney (UTS)

- High Distinction average in all core subjects.
- First Class Honours || WAM: 87.79

Bachelor of Mechatronics Engineering (Advanced Program)   **Aug 2017 – Nov 2020**

Ho Chi Minh City University of Technology (HCMUT)

- High achiever scholarships for High Achiever in academic years of 2018 and 2019.

Certificates & Award

SolidWorks Certificates:

- Associate: Mechanical Design (CSWA – Mechanical Design)
- Professional: Mechanical Design (CSWP – Mechanical Design)

Robothon International Competition:

- Designed computer vision and image processing system for visual-servoing and robot UR10e manipulating.
- Participated in the competition and finished in 12th place in the world.

University of Technology Sydney Engineering Capstone Showcase:

- UTS-Aurecon Judge's Choice Award.
- UTS-John Holland People's Choice Award.

Voluntary activities

Co-founder and Board of H.O.P.E – University Club

Aug 2019 – Feb 2021

- Managed and implemented executive two-year plans for a union of 80 members.

Head of Organisation of Le Qui Don's Amazing Race Competition

Aug 2018 – Aug 2019

- Structured the 3-round format and rubrics of the competition.
- Planned and managed the competition for 100+ attendants.