LIN HENG CHUAN
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WORK EXPERIENCE

NDRmedical, Senior Robotics Software Engineer   **Nov 20 to Present**

I am working on a needle target surgical robotics system. This system uses CT DICOM images for robot arm path planning for procedures such as organ biopsy, drainage and ablation. My key responsibility is developing backend software programming.

- Collaborated with radiographers and interventional radiologists to understand requirements to develop the surgical robotics system and test the robot system integration with the CT system.
- Developed for the robot pose and path planning backend algorithms. Defined DH models and calculated end effector poses with robot kinematics which are projected in 3D simulation created with VTK then communicated to the robot via TCP for the actual operation.
- Developed robot safety features and physical control buttons using the digital and analog io and integration with 6DOF robot such as Universal Robot, dobot, Xarm via tcp connection.
- Developed software features development including graphics user interface with pyside and QML, DICOM image processing.
- Documenting risk management, instructions for user, detail software designs and system testing documents for certification purposes.
- Planned and executed successful phantom and animal experimental trial in SGH(Singapore), NUH(Singapore), Nagoya City Hospital (Japan) and Radboud UMC (Netherlands) in collaborations with doctors leading to valuable data collections and publicity for the company. Translate the doctor's feedbacks to technical requirements.
- Successfully trained and guided the doctors from Nagoya City University Hospital (Japan) for the first in man clinical trial in in November 2022.

Baker Hughes, Subsea Mechanical Design Engineer   **Aug 18 to Sep 20**

Worked on ONGC KG-DWN-98/2 Deep Water Project, a 5 billion USD investment project. I was given the opportunity to design the mechanical equipment with the Singapore design team. Then, I represented the team to travel to UK headquarters and help with the manufacturing.

- Engage with multiple stakeholders in-person at Montrose, United Kingdom, reducing the factory acceptance test duration by roughly a week while fulfilling the client functional design criteria and the industrial standards (mainly API6A & 17D)
- Design engineering models and drawing on PTC Creo software with geometric tolerance expertise and analysis with design verification package calculations on Mathcad software.
- Select Bill of materials, manufacturing process, planning Bom stackup in the Teamcenter
- Host design reviews with chief engineer, product owners and manufacturing engineers from UK and Singapore in online meeting to ensure timely release of the designs, gap analysis and action items
- Liaise with vendors for outsourced design requirement and manufacturing quality issues.
- Resolve non-conformance reports for procurement, engineering and quality issues to ensure quality conformances with the project specifications, salvaging 30% of the problematic parts to reduce wastage.
- Coach team members on the usage of Teamcenter PLM as a superuser reducing the number of tickets raised to the software helpdesk by 50% as well as running user acceptance testing for pre-live updates to ensure smooth transition

Lighthouse Canton, Finance Intern   **Dec 17 to Mar 18**

- Researched on the banks' perspective on the 2018 global outlook
- Edited the annual statements and evaluations reports for client
- Supported the back-office operations team with the trade verifications

Land Transport Authority, Corporate Research Intern   **Jan 17 to Jun 17**

- Planned for annual internal audit for the research funding within the Technology &Industry Development group
- Improved the data collection system for public transportation sector manpower analysis
- Researched the accreditation of rail engineer industries in other countries and other industries in Singapore to justify the need for opening of Singapore Rail Academy
- Assisted with the preparation and opening ceremony of Singapore Rail Academy
- Proposed area of study for aspiration outcome for future developments in transportation as part of the Urban Mobility Grand Challenge
- Co-organised workshops for future self-driving vehicle developments in Singapore between different divisions in LTA and the public transport sectors

EDUCATION

National University of Singapore   **Aug 14 to Jun 18**

- Bachelor of Engineering (Mechanical Engineering), Honours
- Second Upper-Class Honours (Distinction)

Beihang University International Summer School   **Jul 17 to Aug 17**

- Global summer school experience to gain insights into the rapid development one of the fastest growing economies

ADDITIONAL INFORMATION

- Proficient in Microsoft Office, TeamCenter PLM, PTC Creo, Autocad, Visual studio and Visual studio code software
- Proficient in C++ and python
- Proficient in Git, Linux, ROS, SLAM Gmapping
- Certified SolidWorks Associate (Certificate ID: C-BJVV7APK6S)
- Fluent in English and Mandarin (both spoken and written)

SELF DEVELOPMENT

- Achieved Certified Advanced Google Analytics 2020
- Achieved Oracle Cloud Infrastructure Foundations 2020 Certified Associate
- Achieved Tableau Desktop Specialist certification in 2020
- Shortlisted for semi-finals for Shopee UX/UI Product & Design Challenge 2021 team competition
- Completed Specialist Diploma in Robotics Engineering with Ngee Ann Polytechnic in 2021 learning ROS, SLAM, machine learning and computer vision
- Achieved Certified ScrumMaster certification in 2022