Tan Kui An Andrew

🎓 B. Eng., Electrical - Mechatronics, Universiti Teknologi Malaysia
CPGA: 3.90 | Dean's Award | 2016 - 2020

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WORK EXPERIENCE

R&D Software Engineer, ViE Technologies Sdn Bhd

`August 2020 – March 2022`

1) Camera SDK
   `CMake/C++/Qt`
   - Acted as pioneer software developer and performed feasibility study to kickstart the project from scratch
   - Designed and developed a desktop application that is integrated with GenICam standard with fundamental functions such as streaming camera image and configuring camera parameters
   - Developed a C++ dynamic library to be delivered to clients for their own applications
   - Developed sample programs as part of the SDK for users
   - Made use of CPack to package the software and generate an installer for users
2) Energy Monitoring Dashboard
   `NodeJS/TypeScript(Angular)/PostgreSQL/Docker/Rancher/GitLab CICD`
   - Acted as the main developer for this new product with minimal guidance
   - Designed and developed a configurable and flexible web application for monitoring and analyzing electrical usage
   - Implemented design patterns for a better code quality and management
   - Identified area of modifications and implemented them to improve performance and user experience
   - Maintained, updated and deployed the product according to sprint plannings
3) Self-initiated activities
   - Developed an Angular Web App for storing documentations such as project setup procedures, flow charts, technical notes and cheat sheets
   - Conducted knowledge sharing sessions about GitLab CI/CD, Docker, CMake

PERSONAL PROJECTS

1) Path Finding Visualizer `[ C++/wxWidgets/CMake/Docker ]`
   - A project that visualizes some path finding algorithms such as Dijkstra, A* Search, BFS, Greedy Best First Search & Bi-directional BFS.
2) Path Planning Visualizer `[ C++/wxWidgets/OpenCV/CMake ]`
   - A project that visualizes the discrete path planning process, from defining environment geometry & robot geometry till generating path on the graph generated based on the decomposition method selected.
3) Image-based Sudoku Solver `[ Python/OpenCV/Docker ]`
   - A project that uses some image processing techniques to retrieve the sudoku from an input image, transform it into a 2D vector, and then solve it using the backtracking algorithm.

ACHIEVEMENTS

- Completed Udacity Nanodegree - Robotics Software Engineer, 2022
- New product pioneer in ViE Technologies Sdn Bhd, 2021
- Champion in NI Autonomous Robotics Competition, 2019
- Champion in RoboCup @Home Education League in RoboCup Asia Pacific, 2017

SKILLS

- Practical experience with ROS, Python, OpenCV and Turtlebot2
- Hands-on experience with Linux System and UNIX commands
- Working experience with object-oriented and functional programming in C++ and Javascript
- Working experience with CMake for cross-platform development support in the future
- Working experience with version control, continuous integration and continuous delivery using GitLab
- Working experience with containerised development, deployment and management using Docker and Rancher
- Working experience with front-end and back-end web development using Angular, NodeJS and PostgreSQL
- Working experience in applying Agile practices in a small Agile Team
- Knowledge and practical hands-on with algorithms and data structures through LeetCode problems