

Tanut Treratanakulwong

Current Address Netherlands
E-mail tanat44@gmail.com
Date of Birth Late 80's

SKILLS

Software Engineer, Robotics Engineer, Mechanical Engineer

Programming Language	.NET, Typescript, Python, C++, SQL, NoSQL, Microcontroller
Software	Kubernetes, Docker, Linux, Fusion260/Solidworks/FreeCAD, Blender, Illustrator
Language	Thai (Native), English (Fluent), Japanese (Intermediate, Proficiency level N2)

ACADEMIC RECORD

The University of Tokyo, Tokyo, Japan Sep 2013
Master of Engineering in Mechano-Informatics (Robotics), under Japanese Government Research Scholarship
Graduate school of Information Science and Technology (High-distinction master dissertation)

The University of Pisa, Pisa, Italy Feb 2013
Research Visitor at the Research center "E. Piaggio".

Chulalongkorn University, Bangkok, Thailand Mar 2011
Bachelor of Computer Engineering, Faculty of Engineering
First-class honors. (GPAX=3.86, 3rd ranking of the Computer Engineering Department)

WORK EXPERIENCES

T-Hive BV, The Netherlands Jun 2024 to Now
Senior Software Developer

- Introduce the usage of local kubernetes cluster for microservices development in APMT project. Support bugs finding, bug fixes, and deliver change requests to the testing cluster. Improve the deployment process to reduce release complexity.
- Design, architect and implement the software stack for controlling Toyota autonomous towing trucks (3TE25) in Haneda Airport, Japan. Running a team of software engineers in Japan for the system integration, automated testing using robot framework, and deployment. Design and implement Github CI/CD infrastructure for the project team for better work efficiency. Develop standalone internal debugging tools for better developer's productivity using Electron.
- Design and develop universal 2D and 3D rendering engine internal npm packages for using in DigitalTwin and FleetTracker.

Vanderlande Industries BV, The Netherlands Jul 2022 to May 2024
Specialist Software Developer

- Develop web-based CAD application for AGV layout designer and simulation in React TS with Konva, Three JS Library
- Architect and develop in-house high performance 2D & 3D WebGL canvas library
- Lead software integration team for autonomous towing tractors vehicle in Haneda airport, Japan
- Convert WiFi- simulator application written in PyQt into containerize web API and deployed to Kubernetes
- Modeling low-polygon 3d models (10+) of Toyota AGVs' in Blender for efficient visualization on web browser

Toyota Material Handling (Thailand), Thailand Sep 2021 to Jun 2022
Software Developer

- Develop web-based 3D fleet tracker for AGV system using Unity Engine. Integrate WebGL with React / Vue / Angular
- Develop CICD pipeline for React web application and Unity projects

Lumio 3D, Thailand Apr 2020 to Aug 2021
Software Developer

- Develop machine vision application using Qt C++ and Halcon image processing library for defect inspections in factories
- Develop crowd face detection and recognition on Linux computing boards. I have major contributions in face-embedding management in C++, front face detection algorithm in C++, python backend, UI design, and React application
- Mechanical design of camera calibration jig, tilting table, selling together with Lumio H3™ Face Scanner

Freelance Programmer

Nov 2019 to Mar 2020

- Web-application for managing x-ray centers which is capable of handling large file upload/download (30GB+ per day), Online diagnosis platform for radiologists, Line chatbot notification. My contributions cover requirement definition, UI design, coding, testing, deployment, and user-training. The system is currently used by 30+ CT/MRI centers all over Thailand with over 300 daily active users. Software stack: React, Node.JS, MongoDB, Linux server.
- Front-end developer for web-based import-export solution using Flutter, and Google Firebase

Nawarat Clinic, Thailand

Software Engineer and Operation Manager

May 2019 to Now

Jun 2014 to Sep 2015

- Develop in-house CRM/ERP system for dental clinic using React, Node.JS, MySQL. Key features are customer's treatment records, royalty program, booking system, queuing system, management dashboard/reports and salary calculator.
- Run the operation of a dental clinic with 14 rooms, 24 dentists, 18 staff, and over 3000 customers/month.
- Planning and overseeing the construction to expand from 9 to 14 treatment rooms within 6 months in 2015.

Mitsui & Co., Thailand

Deputy Manager Business Development, Infrastructure Project Division

Sep 2015 to May 2019

- Business development with focus on infrastructure projects in Thailand, Myanmar, Laos, and Cambodia.
- Project due diligence on power plant project (hydropower, gas/captive/cogeneration power plant), LNG terminal, fulfillment business. Develop project structure and financial model.
- Coordinate and maintain good relationships with major big corporations in Thailand – PTT, TCC, CKP, EGAT.

Portek International Pte Ltd, Singapore

Business Development Manager

Nov 2016 to Feb 2019

- Develop business in port sector engineering service sector. Main products are secondhand port equipment trading (QC, RTG, MHC), Automated Guided Vehicle (AGV), battery pack for mobile equipment, and etc.
- Seek for port operation concession opportunities in Asia market. Develop business plans and cash flow projection.
- Skills involved are proposal/contract preparation and review, project cash flow analysis, and subsidiary management.

Anthrobotics Inc., Tokyo, Japan

Mechanical Designer

Oct 2013 to Jun 2014

- Research and development of the consumer pet robot utilizing low-friction tendon-driven system and force sensing capability. Major contributions are in the mechanical design of the robot with over 1000 parts.

SCG Paper Plc, Thailand

3-Month Internship

Oct 2010 to Jan 2011

- Develop VBA Script for quality control process in corrugated paper box production line.

INTERESTS

Formula 1 Racing / Software Development / Mechanical Design / RC car & plane / Woodworking

RESEARCH PAPER

Tanut Treratanakulwong, Hiroshi Kaminaga, Yoshihiko Nakamura, "**Low-Friction Tendon-Driven Robot Hand with Carpal Tunnel Mechanism in the Palm by Optimal 3D Allocation of Pulleys.**", In Proceedings of IEEE International Conference on Robotics and Automation, 2014.

Tanut Treratanakulwong, Hiroshi Kaminaga, Yoshihiko Nakamura, "**Monocoque Design of 3D-Printed Carpal Tunnel Mechanism for 11DOF Underactuated Robot Hand.**", In Proceedings of 31st Robotics Society of Japan, 2013. (This paper is written in Japanese)

Lertwiram, Sitthiya, Danupol Tanprayoon, Chonlatit Prateepmanovong, Tanut Treratanakulwong, Wachiraphan Charoenwet, and Pizzanu Kanongchaiyos. "**A design and implementation for ultrasound practice system for fetal echocardiography.**" In Proceedings of the 10th International Conference on Virtual Reality Continuum and Its Applications in Industry, ACM, 2011.