

Joseph Kanichai

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EXPERIENCE

Vrije Universiteit Amsterdam | *Scientific Programmer*

Sep 2025 - Now

Publications

- IEEE CCGrid 2026 - Identifying Energy Efficiency Trade-offs in the Linux Storage Stack for Flash-based NVMe SSDs

Caterpillar | *Associate Engineer*

Jul 2022 - Aug 2023

Intern

Jan 2022 - Jun 2022

Internal protocol tools & library

- Designed and built a low level parser & serializer for a proprietary high level protocol in Rust, using procedural macros to generate most of the code.
- Designed and built a simulation server allowing high level applications to simulate & test systems that use the proprietary protocol.
- Built a GUI tool with tauri, that read various diagnostic information of a device using the proprietary protocol to perform end-of-line hardware validation on the device assembly line.

Common data access

- Developed various features, services and bug fixes for a data aggregation C++ GRPC server (aggregates data across datalinks & ECMs).
- Built a feature that allows configuring thread priorities & improve performance in a thread pool system.
- Added collection of certain emissions reporting diagnostic codes to a service.
- Built a service that allows files to be sent from various ECMs to a USB device on the network ECM.

ECM software update protocol

- Worked on an application that uses a new protocol that allows installing, upgrading, etc. of software packages on an ECM.

HAL layer code generation

- Added features and worked on code generation modules in python that generate code for HAL APIs in C from AUTOSAR configuration files.

Freelancing

Apr 2020 - Apr 2021

Email marketing & automation tool

- Designed and built an email marketing & automation tool interfacing with the Gmail API.
- Schedule & send emails in bulk, track opened emails, track clicked links, create email templates, manage large sending lists
- Automatically create sending lists based on filters, auto-blacklist bouncing IDs, etc.
- Node backend, electron app, MySQL database, Redis for query caching.

Web scraper

- Built an application that uses Puppeteer to scrape various sports websites to extract scores, both current and historical

Node.JS API

- Designed and built various Node.JS APIs for a local construction & re-modelling company.

EDUCATION

University of Amsterdam & Vrije Universiteit Amsterdam

2023 - 2025

MSc Computer Science

Grade: 7.8/10.0

Thesis: Characterizing the Energy Contribution and Energy-Performance Trade-offs of NVMe SSDs in the Linux Storage Stack

Amrita Vishwa Vidyapeetham

2018 - 2022

BTech Computer Science

CGPA: 7.7/10

PROJECTS

twitch-points-miner | *Rust, Svelte, Docker*

May 2024

- A bot that mines channel points on twitch streams
- Configurable at runtime with a Web API
- A svelte frontend to easily manage the bot
- Analytics, claim bonus points, place predictions, etc.

graph-benchmarks | *Rust, Kubernetes, Ansible, Terraform, Vagrant*

Dec 2023

- Designed and built an automated graph processing platform benchmarking system
- Uses k3s & ansible to setup kubernetes & various graph processing platforms
- Runs benchmarks, and collects statistics

compose-scaler | *Rust, Go, Docker*

Jan 2024

- A traefik plugin, and a standalone service to downscale idle docker compose projects
- Designed for homelabs that tend to have many individual docker compose projects

SKILLS

Languages: Rust, C/C++, Go, Node/JavaScript/TypeScript, Python

Tools & Frameworks: Git, Kubernetes, Docker, GRPC, SQL, Redis, Axum, Svelte, AWS

ACHIEVEMENTS & CONTRIBUTIONS

Google DSC ML Hackathon - 2nd place

Amrita Vishwa Vidyapeetham - Apr 2021

- Various ML challenges

DOFE - silver

British school of Paris - 2016

- Youth awards program for public service, sports and learning

RSHM Award

Marymount Paris - 2014

- Youth awards program for public service and learning