YUANDA DONG

dongyuanda@gmail.com +61 434-010-630 github.com/Yuanda-Dong linkedin.com Sydney, NSW, AU

EDUCATION

M.S. in Computer Science

University of New South Wales

Sep 2021 – Dec 2022 Sydney, NSW, AU

WAM: 88.0

B.S. in Computer Science and Mathematics

University of Sydney

Mar 2018 – Jun 2021 Sydney, NSW, AU

WAM: 86.4

SELECTED SKILLS

Python

Numpy | Matplotlib | pandas | TensorFlow | SageMath | Networkx | FastAPI | CVXPY | OpenCV binding

Rust

Code in Rust | Serde | RON

C++

Code in C++ | Intel ISPC | Cuda

Web Development

HTML CSS Javascript | React | MongoDB

Maths

Algebra | Calculus | Statistics | Optimisation | Network Analysis | Numerical Analysis

Other

Java | R | Linux | AWS EC2 | Docker | Github Actions | Sql | Latex | Emacs Lisp | Magit! | Railway

LINKS

View this resume as a WebAssembly app:
yuanda-dong.github.io/resume-as-code

View the source code:
github.com/Yuanda-Dong/resume-as-code

ABOUT ME

Aspiring software engineer with background in mathematics. Self-motivated learner and problem solver with an affinity for automation, scalability and extensibility.

EXPERIENCE

UNSW Projects

Sep 2021 – Dec 2022 Sydney, NSW, AU

- Implemented an "adventure" style 2D game in the terminal, which supports a generic task (quest) system that allows developers to add new tasks to the game easily.
- Implemented an Internet Relay Chat (IRC) server in Rust, that spawns a new OS thread for each client connection, and maintains the shared data in the main thread. The implementation also supported a generic plugin (extension) system.
- Wrote an essay summarizing Professor Boyd's book on convex optimization, and experimented with Boolean LP relaxation, and portfolio optimisation using CVXPY.
- Implemented the front-end of a Kahoot clone using ReactJS. The game allows an admin to host the kahoot game, and multiple players to play.
- Worked in a team to develop an event management platform TicketPlanet similar to Eventbrite. I worked mainly on the front-end React code, and backend logic such as search filter, recommender system.

USYD Projects

Mar 2018 – Jun 2021 Sydney, NSW, AU

- Implemented traffic sign detection algorithms using a combination of computer vision (openCV) and Neural Network (TensorFlow) and tested using simulated and real-world data. I also worked on interfacing the model prediction with RMracerlib which is a python library used for controlling model cars.
- Worked with biochemistry students to apply network analysis techniques to identify critical nodes in Yeast Network for limiting the proliferation of cancers.
- Worked in a team to built parser, compiler and intepretor for a simple imperative language μ in Java. We also did compiler optimisation such as unreachable code removal, constant propagation, and deadcode elimination.

Side Projects

Dec 2022 – May 2023 Sydney, NSW, AU

- Implemented parallel prefix-sum, and parallelised a circle rendering algorithm that utilistes the GPU in Cuda. The Code was ran on an Amazon EC2 instance.
- Implemented a C++ library that executes tasks provided by an application in parallel using a thread pool. Conditional variables are used to prevent threads from busy waiting.
- Customised my Emacs with Emacs lisp. I learnt alot about what I wanted from editors in doing so.
- Implemented and analysed various numerical algorithms, such as finite difference method, QR factorisation, graph partitioning using eigenvectors, Broyden's Method for root finding, gradient descent, and Adaptive Interpolation for (not so smooth) functions.
- Implemented some core algorithms of the rasterisaiton pipeline (WIP).
- Implemented a simple linux command pstree in Rust.
- Worked on a Github actions pipeline that allows me to write blogs in Emacs org mode, and publish on github pages easily.