



# Ying Chyi Gooi

Software Engineer  
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## EXPERIENCE

### SpaceCraft // Fall 2018 - Present

Co-creator and Software Engineer – <https://spacecraft-repl.com>

- Co-created an open-source, in-browser REPL (Read-Eval-Print-Loop) that enables real-time collaboration between users using Node.js, WebSockets, and Docker.
- Implemented state synchronization in the front-end REPL terminal and resolved conflicts through the use of CRDT and eventual consistency techniques.
- Reduced network latency by at least 10% by removing the need to buffer outputs through server-side caching.
- Strengthened security of application through container isolation techniques to prevent user-entered malicious code from affecting the host system.
- Built a reverse proxy server from scratch using Node.js to manage multiple user sessions and to forward requests to the appropriate containers.
- Wrote a detailed case study (<https://spacecraft-repl.com/whitepaper>) and gave tech talks at Meetups (<https://youtu.be/Dehmu9QpLTg>).

### Full-Stack Web Developer // Spring 2017 - Winter 2018

Freelance

Developed full-stack applications for open-source projects:

- **Airline Routes (React)**  
Built a single-page application that displays information on routes flown by major airlines. Rewrote the SVG map component in Vanilla JS to reduce rendering time of 1700 SVG elements from ~400ms to ~60ms.
- **Ticket Tracker (Rails/SQL)**  
Built an application that manages tickets by tracking issues and changes. Optimized ticket count from running  $N + 1$  queries to a single SQL query.
- **Coin Exchange (Sinatra)**  
Developed a digital currency exchange that allows users to buy or sell mocked digital currencies. Integrated with CryptoCompare API to track real-time price data.

### Product Support Analyst // Summer 2017 - Winter 2017

Global Atlantic Financial Group

- Built custom Excel productivity tools to automate the formatting of text data and reduced manual processing time from 5 minutes to less than a minute.

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## EDUCATION

### Launch School // Spring 2017 - Winter 2018

Software Engineering and Full-stack Web Development

### Drake University // Fall 2013 - Winter 2015

B.S.B.A. Actuarial Science

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## SKILLS

**Back-end:** Node.js, Ruby, Rails, PostgreSQL, RESTful APIs

**Front-end:** JavaScript, ES6, React/Redux, HTML/CSS

**Other:** Docker, DevOps