

# ELLIOTT CHONG

## Front-End Developer

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## INTERNSHIP EXPERIENCE

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### Reluvate Technologies

 2022 Oct - 2023 Feb

- Worked as a **full-stack intern** at Reluvate, a software consultant company specialising in **AI and automation**.
- Contributed to the development of a **financial report dashboard** that automated the generation of financial reports for internal users
- Worked with various technologies including **Google Cloud Platform, Python, Pandas, ReactJS, and MUI**
- Gained experience in **ETL** and built a **robust data pipeline** using Python and Pandas

## CCAs

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### School of Computing Club ( SOCC ) Events SubComm

**Plan & execute events** for School of Computing Students in Singapore Polytechnic.

### Singapore Poly AI ( SPAI ) Events SubComm

**Plan & execute events related to Artificial Intelligence**, spreading the amazing world of AI to the student body.

## SKILLS

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Frontend	Backend	Database	Dev Tools	Design
HTML	Node.js	SQL	Git	Figma
CSS	Express.js	MongoDB	Nginx	Inkscape
JavaScript	Python	<b>Cloud</b>	Postman	
React	Django			
TailwindCSS	NextJS	AWS Lambda		
Bootstrap	TRPC	AWS S3		
MUI	TypeScript	GCP Cloud Functions		

## EVENTS & HACKATHONS

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### **Host of How to Git & GitHub**

- Hosted a tutorial on the use of **Git & GitHub** to the Singapore Poly student body.
- Created the **slides & content** for this tutorial.

### **Polyfintech100 Hackathon ( First Runner Up )**

- The objective of PolyFinTech100 API Hackathon is to **nurture FinTech talent** to meet the rapidly changing needs of the **financial services** sector.
- We came up with a **software solution** that helps users keep track of their **portfolio/achievements** by putting it on the **blockchain**.

### **SPAI Hackathon ( First Runner Up )**

- The theme of this hackathon was to come up with a solution that may benefit the **environment**.
- We came up with a gamified app for users to identify trash and throw it in to nearby recycling centers similar to the concept of **PokemonGo**.
- The trash detection used a model from **HuggingFace**, by taking a picture of the image, our app was able to detect the trash

## PROJECTS

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### **Personal Portfolio Website**

 2021

Project link: [elliottchong.tech](http://elliottchong.tech)

Source code link: [GitHub](#)

- Using my frontend development skills, I designed from scratch my own **portfolio website** that I use to showcase all my coding projects.
- All **custom theme** and **layout** designed on **Figma**
- Hosted on my own **linux web server** at home using **Nginx**.
- **Custom domain name** linked to my webserver.

# PROJECTS

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## Bootstrap Portfolio Website

 2022

Project link: <https://bootstrap-elliottchong.netlify.app/>

Source code link: [GitHub](#)

- A **remake** of my vanilla portfolio website using **Bootstrap 5**.
- Used bootstrap's components such as **accordians, modals, carousels**.
- Used bootstrap's grid model for easy **mobile-first responsive** designs.

## Path Finding Visualisation

 2022

Project link: <https://path-finding-visualiser.netlify.app>

Source code link: [GitHub](#)

- Implemented with **p5.js**, this project is a showcase of some of the more famous **search algorithms**.
- Features **BFS, DFS, A\* & Greedy** best first search.
- Start & end point persistance with **LocalStorage**.
- Features **random** maze generation.

## SportBuddy

 2021

Project link: <https://sportbuddy.elliottchong.com>

Source code link: [GitHub](#)

- A **social media platform** that allows users to find companions to play sports with.
- All custom **frontend responsive** UI built with **React & tailwindCSS**.
- All custom backend featuring **Express.js, Node.js & MongoDB**.
- Google **OAuth** for SSO.
- State management featuring React's **context API** and the **useReducer** hook.
- Custom **auth workflows** utilizing **JWTs** for persistent browser login.

# PROJECTS

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## Minesweeper AI

 2022

Project link: <https://minesweeper-elliott.netlify.app/>

Source code link: [GitHub](#)

- Implemented with the **p5.js** library, this project features both the minesweeper game and an AI that plays it.
- The AI was coded in JavaScript.
- The design of the AI involves the logic of solving **constraint satisfaction problems** ( CSPs )

## Nim AI ( Reinforcement Learning )

 2022

Project link: <https://nim-ai.netlify.app/>

Source code link: [GitHub](#)

- Vanilla HTML, CSS & JS for the frontend.
- The AI is trained through **Reinforcement Learning** ( Q-Learning ), playing against itself many times and learning the optimal move to play at any state.
- By playing against itself for 10,000 games, and assigning rewards and punishments to its moves, the AI is able to learn the optimal move to play at any state. To balance exploration and exploitation, the AI chooses its moves based on the **epsilon-greedy algorithm**.

# PROJECTS

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## Smart Rockets ( Genetic Algorithm )

 2022

Project link: <https://smartrockets-elliott.netlify.app/>

Source code link: [GitHub](#)

- This is a showcase of **genetic algorithms**, a search heuristic inspired by natural evolution.
- The fittest elements of the population gets **crossbred and reproduces** the next generation with their genes. After many generations, they will eventually **converge on the optimal genes** for the task at hand.
- The fitness of each rocket is calculated by the **inverse of the distance between it** and the target at the end of its lifespan.

## Custom GitHub Dashboard

 2022

Project link: <https://github.elliottchong.com/>

Source code link: [GitHub](#)

- I was lazy and tired of always going to GitHub and **painstakingly** finding the repo I'm looking for.
- So I implemented a **frontend UI** that hits the **GitHub API** to get a list of all my repos so that I can **navigate to them quickly**.

## Random Quotes Generator

 2022

Project link: <https://quotes-elliott.vercel.app/>

Source code link: [GitHub](#)

- Build with **NextJS** and **Firebase**, this is a **experimental web app** for me to learn these new technologies. Learning a **BaaS** (backend as a service) is immensely useful as it can help reduce a lot of **backend boilerplate** code.

# PROJECTS

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## Newton Raphson Visualiser

📅 2022

Project link: <https://newton-elliott.netlify.app/>

Source code link: [GitHub](#)

- The Newton-Raphson method (also known as Newton's method) is a way to quickly find a **good approximation for the root of a real-valued function**  $f(x) = 0$ . It uses the idea that a continuous and differentiable function can be approximated by a straight line tangent to it.
- This is a simple visualisation of each **iteration** of the Newton method using **p5.js**.