

# Carl Shen

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## Education

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**University of Waterloo** — Bachelor of Software Engineering

Sept 2019 - Apr 2024

Cumulative Average: 92% GPA

## Skills

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**Languages** Javascript, Python, Golang, GraphQL, SQL, C, C++, Java, Dart, HTML, CSS, Scala

**Technologies** NodeJS, ExpressJS, ReactJS, Redux, MongoDB, Keras, Firebase, Flutter, Bootstrap, Git, Flask, Airflow, Swagger/OpenAPI, Jupyter Notebook, Apache Spark

## Experience

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**Wish** — Software Engineering Intern, Data & Relevancy

Sept 2021 – Dec 2021

- Implemented data automation pipelines with **Airflow** and **Python** to process and score search queries for **7,000,000+ products every day** via **Hive SQL** queries
- Developed backend microservices using **Golang** and **MongoDB** for a new fashion ecommerce app, 1Sansome. Served using a **GraphQL** gateway

**NCR Corporation** — Software Developer

Jan 2021 – Apr 2021

- Developed a **Dockerized Java/Maven** app that creates API endpoints using **OpenAPI** specifications and a **custom programming language**. Served both externally and to **10+ teams of engineers** internally
- Revamped the frontend interface using **ReactJS**, **Redux** and **MaterialUI** by working with designers

**TD Bank Innovation Lab** — Software Developer

May 2020 – Aug 2020

- Developed a mobile app using **Google Cloud Vision**, **Firebase**, and **Flutter**, to find relevant scholarships using a photo of a student transcript.

## Projects

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**Writing Buddy**

[github.com/JankyCS/story-generator-nlp](https://github.com/JankyCS/story-generator-nlp)

- Created an AI-powered collaborative story generator, deployed as a **DiscordJS** bot and a **ReactJS** app
- Built a **LSTM Recurrent Neural Network** using **Keras** for character-level text generation
- Scraped data with **BeautifulSoup** and preprocessed with **NumPy**, totalling **85,000+ training examples**

**Moodly**

[github.com/JankyCS/mood\\_tracker](https://github.com/JankyCS/mood_tracker)

- Developed and released a mood-tracker **Flutter** app with **800+ downloads** on the Google Play Store
- Stored data locally using **SQLite** and encrypted/decrypted data with a **Firebase Cloud Function**

**Sagacity** — Hack the North 2019, 1<sup>st</sup>/1500+ Hackers

[devpost.com/software/sagacity](https://devpost.com/software/sagacity)

- Built an application that converts pictures of fragmented notes into readable and organized notes
- Produced high quality notes by fine tuning the **OpenAI GPT 2** recurrent neural network
- Detected and read text using **Google Cloud Vision** text detection models

**Fridge Recipes**

[github.com/JankyCS/fridge-recipes-mern](https://github.com/JankyCS/fridge-recipes-mern)

- Developed and deployed a **MERN** web-app to search recipes using ingredients already in the kitchen

## Interests

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Chess, Baking Sourdough Bread, Investing, Personal Fitness, Playing Piano, Graphic Design