

Gabriel Wong

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Experience

Grab Holdings Inc.

Apr 20 to Present

DATA ENGINEER

- Coordinated a team of three other members for the development and quality testing of a data warehouse by tracking progress of their assigned tasks, offering technical guidance, and performing code reviews to ensure timely delivery
- Implemented multiple ETL jobs, applying optimization methods to reduce CPU usage of several SQL jobs by 30-70%, and run time of a critical bottleneck PySpark job from 3 hours to 1 hour
- Wrote a custom SQL parser to catalog the entire organization's data lake of 9,000 source tables and 3,000 ETL jobs
- Used the parser output to create a data lineage graph with over 100,000 vertices and 180,000 edges, to allow for systematic impact management and data migration

Grab Holdings Inc.

Sep 19 to Apr 20

DATA SCIENTIST (ANALYTICS)

- Built a Slack bot using microservice architecture to automate crowdsourced annotation of data for sentiment analysis, collecting 2,819 responses from 73 participants in its first two months
- Applied text analytics on the organization's SQL queries to automate the task of requirement gathering, facilitating the dimensional modelling process for a new Analytics data warehouse
- Adapted same textual model for the analysis of daily ETL queries, identifying 87 unique jobs of duplicated work, totalling 18 hours of compute per day, or US\$5,579 per month

Taiger Singapore Pte. Ltd.

May 18 to Nov 18

DATA SCIENCE RESEARCH INTERN

- One of 7 students selected from over 300 applicants for the inaugural Summation Programme by SGInnovate, a deep tech accelerator
- Developed a signature extraction engine alone from scratch; used in sales demos of the company's OCR capabilities

Education

Singapore University of Technology and Design (SUTD)

May 16 to Aug 19

BACHELOR OF ENGINEERING (INFORMATION SYSTEMS TECHNOLOGY AND DESIGN)

- Computer Science major, with a specialization in Artificial Intelligence and Business Analytics
- Graduated summa cum laude with a GPA of 4.76/5.0
- Awarded the SUTD Honours List for Freshmore Terms for placing within the top 10% of the cohort

NUS High School of Mathematics and Science

Jan 08 to Dec 13

DIPLOMA WITH HONOURS IN MATHEMATICS, CHEMISTRY AND PHYSICS, AND MAJOR IN COMPUTING STUDIES

- Graduated with a GPA of 4.3/5.0 (Distinction)
- Awarded the CCA Achievement Award for three consecutive years (2011 - 2013) for outstanding performance in Robotics
- Coursework: Database Design, Data Structures and Algorithms, Software Engineering, Computer Networking

Competitions & Hackathons

2019	Winner , AI for Accessibility Hackathon	Hackathon
2018	Most Impactful Idea Winner , Startup Weekend Singapore Mega	Hackathon
2018	First Place , DSTA Cyber Defenders Discovery Camp	Competition
2017	Best Environment Idea & Best Hardware Hack , What The Hack @ SUTD	Hackathon
2016	Grand Prize Winner , Tech-Factor Challenge	Hackathon
2016	First Place , DSTA Cyber Defenders Discovery Camp	Competition

Skills

Programming Languages

Python, Java, SQL, HTML/CSS/JavaScript, R, C

Data Science and AI

Spark, Pandas, TensorFlow, Keras, PyTorch, Scikit-learn, OpenCV

Web and App Development

React, Vue, Flask, FastAPI, Docker

Web Scraping and Automation

Selenium, BeautifulSoup, Telegram bots, Slack bots

Electronics and Miscellaneous

Arduino, Processing, SolidWorks, ROS, 8051

Personal Projects

SUTD Hostel Air-Conditioning Manager

May 19 to Jul 19

WEB SCRAPING, WEB DEVELOPMENT, TELEGRAM BOT

- Built an alert system that monitors air-conditioning credit amounts via web scraping, with over 90 active users
- Created a Telegram bot as a user interface, as well as a Vue.js dashboard for usage tracking

One-Shot Image Recognition with Siamese Neural Networks

Apr 18 to Aug 18

COMPUTER VISION

- Experimented with one-shot image classifiers using Siamese convolutional neural network (CNN) classifiers on TensorFlow and Keras
- Created and trained models to match different handwritten signatures signed by the same owner
- Utilised synthetic images created via generative adversarial networks (GANs) to augment open-source forgery datasets

MouseHunt (Facebook Game) Bot with CAPTCHA Solver

Jan 18 to Feb 18

WEB AUTOMATION, COMPUTER VISION, DEVOPS

- Designed and developed a Selenium-powered bot to play the Facebook game "MouseHunt"
- Circumvented anti-bot CAPTCHAs through image pre-processing with OpenCV and subsequent OCR with Tesseract
- Configured for easy deployment on both a Raspberry PI, as well as an EC2 server, through Docker containerization

School Projects

OpenAI Gym: Car Racing

May 16 to Aug 19

COMPUTER VISION, REINFORCEMENT LEARNING

- Developed an imitation learning approach for reinforcement learning on PyTorch to achieve state-of-the-art scores while attaining a 90% reduction in training time
- Analyzed resulting CNN-based model using Layer-Wise Relevant Propagation to visualize spatially significant input regions
- Awarded the EPS Computer Systems AI Award alongside a \$750 cash prize for Best Project in a cohort of over 120 students

Automated Coffee Barista

Dec 18 to Feb 19

ROBOTICS, ELECTRONICS

- Designed and built a system for automated coffee serving with a 6-axis robotic arm
- Programmed robot movements and sensor controls on a Raspberry Pi using ROS and Arduino
- Created in collaboration with SUTD Engineering faculty as their central showcase for Open House 2019, with over 4,000 visitors
- Received the Outstanding Contribution to Pillar award for their usage of the project in various subsequent public outreach events

Chinese New Year (CNY) 2017 Street Light-Up

Dec 16 to Jan 17

WEB DEVELOPMENT

- Created a web application, allowing members of the public to send New Year greetings to a display screen
- Said screen was set up for public display in Chinatown as part of the annual CNY festive decorations, lasting 21 days
- Developed a front-end display using HTML, CSS & JavaScript, through collaboration with Kreta Ayer-Kim Seng CCC

Interactive Wall

Jun 16 to Aug 16

ARDUINO, ELECTRONICS

- Lead programmer in a team of 3 for the Interactive Wall, creating an API to allow the team to easily design and program display patterns
- Project was displayed at Maker Faire Singapore, SUTD Learning Celebration Carnival, and WEEK7, SUTD's inaugural music festival