

# Jacob Li PengCheng

## Software Engineer

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## Programming Skills

0 LinesOfCode(LoC) → 10000 LoC

Java • Python

C# • Scala

Unity • Vue • Javascript

SQL • Unreal Engine •  $\LaTeX$

## Additional Skills

- [Machine Learning using Python](#)
- [Statistical Analysis of Data](#)
- [Docker Mastery with Kubernetes](#)
- Video Production using Final Cut Pro
- Project and Event Management
- Cloud Computing with AWS, GCP, Azure
- Strong Interpersonal Skills
- Goal Oriented
- Problem Solving Skills

## Extracurricular Activity

### NUS Student Union EXCO 2017 - 2019

- **Director of Alumni Relations:** Coordinated with Office of Alumni Relations to organize networking events for NUS alumni and students.
- **Deputy Welfare Secretary:** Communicated with NUS offices in charge of physical and IT infrastructure to enforce needs and welfare of students.

### NUS Inter-College Games 2016 - 2017

- **Project Director:** In a team of 13, planned and organized 22 different sports competitions comprising 3000 over students, from program schedules, welfare, logistics to manpower.

## Languages

- **English (Native)**
- **Chinese (Native)**

## Education

**Carnegie Mellon University (CMU), Entertainment Technology Center** May 2022  
Master of Entertainment Technology Pittsburgh, PA

- Grade Point Average (GPA): 3.99
- **Teaching Assistant:** 15-619 - Cloud Computing and 53-711 - Improvisational Acting

**National University of Singapore (NUS)** Dec 2019  
Bachelor in Computer Science with Honors (Distinction) Singapore

- **Teaching Assistant:** Module CS3241 (tutorial) - **Computer Graphics in C++** and CS2103 (tutorial & code reviews)- **Software Engineering in Java**
- **Relevant Coursework:** Software Engineering, Machine Learning, Computer Graphics, Interactive Design, Database, Data Structures and Algorithms.

## Experience

**Backend Software Engineer in Scala** [Agoda Pte Ltd](#)  
Jan 2020 - Dec 2021 Singapore

- Agoda, part of Booking Holdings, is an leading online travel booking platform with 2.5 million properties in more than 200 countries.
- Analyzed and improved existing software across content and image ingestion systems to enhance **pipeline to process 25% faster and 15% lesser escalations**.
- Helped to integrate new external suppliers' implementations to Agoda, leading to **20% increase in external suppliers bookings growth**.
- Implemented dynamic rate limiting to applications to spread out data ingestion load.
- Dockerized content systems and migrated them to kubernetes deployment.
- Set up Integration Test (IT) framework, enhance IT test and improve code coverage.

## Internships

**Software Engineer Intern in Java** [GIC Pte Ltd](#)  
Jun 2019 - Aug 2019 Singapore

- Singapore's sovereign wealth fund managing US\$360 billion funds over 40 countries.
- Constructed automated workflow in Continuous Integration/Continuous Development (CI/CD) by manipulating tools like **Jenkins, JIRA, Gitlab, SonarQube, Nexus**.
- Automation replaced the manual work of an external GIC DevOps support staff.

**Full Stack Software Engineer Intern in Java** [NUS Teammates](#)  
May 2018 - May 2019 Singapore

- Teammates is part of Google Summer of Code Projects, largest student-run open source project with >160k lines of code to help teachers in collecting feedbacks.
- Reviewed and merged **20 over pull requests** for major and minor enhancements, including **front end migration to Angular 7.0** to reach out to a larger audience.
- Became an **area lead** focusing on PR reviews for the project starting Jan 2019.

**Software Engineer Intern in C#** [Endofotonics Pte Ltd](#)  
Mar 2019 - May 2019 Singapore

- Medical start up company focusing on early lung cancer detection.
- Implement **front end** user interface and logic for the first version of executable user interface application in **C#** to pair with medical device in hospitals for nurses.

## Academic Projects

**CMU Project - WanderMath** Sep 2021 - Dec 2021  
Programmer in a team of 5 to build an Augmented Reality (AR) learning experience to teach 4th and 5th grade students math concepts, made available in app and play store.

**CMU Building Virtual World | Programmer & Producer** Sep 2020 - Dec 2020  
Designed 5 interactive [Mixed Reality \(XR\) experiences](#) by collaborating with artists, programmers in 1 to 3 weeks sprints.

**NUS Conference Papers Visualization** Aug 2018 - Nov 2018  
Full stack development in a team of 4 using **Vue** to create a [web app](#) from scratch for NUS research department to visualize data and sieve out research gaps among papers.

**NUS Virtual Reality (VR) Game** Jan 2018 - Apr 2018  
Harnesses **Unreal Engine** to design and create a mystery themed [detective VR game](#) in a group of 4 to attract students to play VR game.