

Peter (Hyunseok) Jung

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EDUCATION

University of Cambridge

MPhil in Advanced Computer Science (Incoming)

Oct 2026 – Jun 2027

Cambridge, United Kingdom

- **Relevant coursework:** Advanced Operating Systems, Affective Artificial Intelligence, Explainable Artificial Intelligence, Machine Learning Systems, Countertechnologies

National University of Singapore

Bachelor of Computing (Honours), Computer Science; GPA: **4.63/5.00**

Aug 2020 – Jul 2026

Singapore

- **Relevant coursework:** Artificial Intelligence & Machine Learning, Algorithms & Data Structures, Operating Systems, Computer Networks, Database Systems
(incl. mandatory military service, Oct 2023 – Jul 2025)

EXPERIENCE

InterOpera

Software Engineer

Jul 2026 – Present

Singapore

- Developed a **policy compiler** for an AI platform governing workflows across **\$1B+ in assets**, transforming fund agreements and Excel rulebooks into auditable rules with clause-level provenance.
- Engineered a **two-stage grounding pipeline** using schema-constrained LLM extraction and explicit abstention, preventing unsupported rules from entering deterministic compilation.
- Built an **answer-key evaluation harness** across 4 real client document sets, improving extraction accuracy from **25% to 90%** while achieving **zero incorrect extractions** and **100% grounding** on a 218-rule workbook.

ByteDance (TikTok)

Software Engineer Intern

May – Jul 2022; May – Jul 2023

Singapore

- Built and launched a **BytePlus enterprise referral system** integrated with Salesforce, supporting onboarding workflows for **10 new mid- and large-scale enterprise customers**.
- Led migration of **Node.js backend infrastructure**, modernizing service code and expanding automated test coverage by **20%** to improve maintainability and regression protection.
- Developed an internal **React/FastAPI content-management system** that streamlined publishing workflows and increased marketing-content throughput by **25%**.

Source Academy, National University of Singapore

Full-Stack Developer

Jan 2021 – May 2021

Singapore

- Developed and maintained a **React/Node.js programming platform** used by **600+ first-year computer science students**.
- Expanded automated test coverage across core user flows by **15%**, reducing regression incidents in releases by **10%**.
- Contributed to the implementation and documentation of **expression-reduction semantics** for the functional JavaScript sub-language used by the platform.

RESEARCH & PUBLICATIONS

Investigating the Effects of Divided Attention on AI-assisted Decision-making

Co-Author & Developer

Aug 2026

Under review

- Investigated how **divided attention affects reliance on LLM assistance** during reasoning tasks at the intersection of AI, HCI, and cognitive science.
- Designed an experimental protocol combining an **n-back cognitive-load task** with LSAT-style reasoning questions to manipulate attention and measure reliance.
- Developed the study methodology and experimental implementation for evaluating reasoning behavior under varying cognitive load.

A Stepper for a Functional JavaScript Sub-language

Co-Author & Developer

Oct 2021

SPLASH-E 2021

- Co-developed the **first algebraic stepper** for a JavaScript sub-language supporting return statements and block declarations through explicit reduction-step evaluation.
- Corrected anonymous-function evaluation by implementing **lexical scoping and capture-avoiding substitution**.
- Formalized expression-reduction semantics and presented the system at the **SPLASH-E 2021 international symposium**.

PROJECTS

Pulsepace – Real-Time Rhythm Game | Swift, SwiftUI, GCP

Tech Lead & Client Engineer

Aug 2023

- Led a **4-person engineering team** building an iPadOS rhythm game, owning client architecture and core gameplay systems.
- Implemented a **time-synchronized beat engine** coordinating audio playback, beat events, and player input.
- Built the beatmap editor, input-processing pipeline, and achievements system supporting gameplay authoring and progression.

Minecraft Peggle – Custom 2D Physics Arcade Game | Swift, SwiftUI

Sole Developer

Jan 2023

- Designed and shipped an iPad arcade puzzle centered on a **custom 2D physics engine implemented from scratch**.
- Implemented **gravity, collision detection and response, and restitution** without relying on a third-party physics engine.
- Separated simulation, rendering, and application state using MVVM, keeping physics logic independent of the SwiftUI layer.

ADDITIONAL EXPERIENCE

Republic of Korea Air Force

Staff Sergeant, Interpreter

Oct 2023 – Jul 2025

Seoul, South Korea

- Translated technical aerospace documentation from **ICAO, FAA, and NASA** between English and Korean.
- Provided real-time interpretation for the ROK-US **Ulchi Freedom Shield** exercise at Camp Humphreys.
- Supported joint command-and-control operations at the MND Exercise Control Cell during the ROK-US **Freedom Shield** exercise.

TECHNICAL SKILLS

Languages: Python, C++, Java, TypeScript/Javascript, Go, Rust, C, Swift

Machine Learning & Data: PyTorch, NumPy, Pandas, scikit-learn, SQL, PostgreSQL

Systems & Infrastructure: Linux, Docker, Kubernetes, Git, Bash, Google Cloud Platform

Web & Mobile: FastAPI, Node.js, React, Next.js, SwiftUI