

Pak Hong (James) Leung

✉ jlfly12@gmail.com

↔ github.com/james-leung

☎ 07888 429709

📄 james-leung.github.io/

Projects:

- [Burgler \(fast-food ordering application\)](#)
- [TravelBug \(blog site\)](#)
- [User Profile Search Engine](#)

Experience and Education

Individual Full-stack Developer 2018 – now

My focus is to create and combine SPA websites and RESTful API's, using mostly Angular and .Net Core. I deploy my applications to Azure and DigitalOcean, either in resource groups or docker containers, with an automated CI / CD workflow and Git version control. Being a follower of SOLID principles, I strive to write readable code and build maintainable, feature-rich software.

Duke University: Ph.D. student (graduated 2020) 2018 - 2020

Majoring in physics, I was tasked to simulate quantum circuit operations in a trapped ion system. Specifically, I

- Wrote my own quantum circuit simulator in Python, resulting in over 90 % agreement between simulation and experiment.
- Created an optimisation suite for laser pulse control, which suppressed quantum gate error rates to under 0.01%.
- Presented my work to experimentalists and established teamwork with other control theorists on a regular basis.

Georgia Tech: Graduate Teaching Assistant 2015 - 2017

My main responsibility was to nurture undergraduate students in physics and engage them in interactive labs and Q&A sessions. Other tasks include grading mid-term exams, handling experimental hardware, and teaching students basic Python using IDLE.

Select Graduate Publications

- [Robust 2-qubit Gates in a Linear Ion Crystal Using a Frequency-Modulated Driving Force](#)
- [Entangling an Arbitrary Pair of Qubits in a Long Ion Crystal](#)
- [Two-qubit entangling gate within an Arbitrarily long Chains of Trapped Ions](#)

Summary

My passion for developing software began during my Ph.D. programme in physics, where I developed Python functions that solved critical physical problems in quantum computation. I have gathered extensive experience in leading teams of researchers, mentoring junior students, and writing peer-reviewed scientific papers. Now with 5+ years of experience in object-oriented programming, I build web applications with smooth user experience and solid back-end services, a staple in modern software development.

Skill Set

- Rigorous problem solving from academic training
- C#
- .Net Core 3.1
- Typescript / Javascript
- Angular 2+
- React
- Express
- Node.js
- Python
- Jupyter lab
- Docker
- Git
- HTML and CSS
- Bootstrap 4
- Entity Framework Core
- SQL Server / T-SQL
- Azure Devops
- Visual Studio
- Algorithms (LeetCode)