


Peter HU

University of Cambridge |  **Jardine Scholar**
Computer Science Part IA

CONTACT

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 [LinkedIn](#) |  [Github](#) |  [Portfolio](#)

SKILLS

Basic Skill · C · C++ · Java · OOP · CMake · Gdb · Algorithms and Data Structure · Functional Programming (OCaml)
Front-End · HTML/ CSS · React · Latex **Back-End** · Database · SQL · NoSQL
Data Sci · Python · NumPy · Machine Learning · Deep Learning · Natural Language Processing · Computer Vision
Graphics · Vulkan · GPU 3D Pipeline · GPU driver · Game Engines/ Unreal Engine Unity · C#
Math · Calculus · Linear Algebra · Discrete Math · Probability and Statistics · Abstract Algebra · Topology (basic)
Operating System Process, Memory, Linux · bash/shell · Digital Electronic
Development Tools git (Version Control), CI/CD pipeline, Visual Studio, VS Code, Pycharm, Github, Gitlab, IntelliJ IDEA

ABOUT ME

Computer Science student studying at University of Cambridge. What I really enjoy is the beauty of Computer Science and how it can be applied in real life. I am open to new fields of area and enjoy exploring unknown features.

WORK EXPERIENCE

GPU Software Engineer Intern

Huawei Technologies Research & Development (UK) Ltd

Cambridge, England, United Kingdom

Dec 2022- Present

Skills: C++ · CMake · Vulkan · GPU 3D Pipeline · GPU driver · Game Engines/ Unreal Engine · Gdb

EDUCATION

University of Cambridge

Computer Science, Undergraduate

Oct 2022- Present

· Merit-based, fully funded Jardine Scholarship

Xiamen University

Software Engineering, Undergraduate(First Year)

Sep 2021-June 2022

· GPA: 3.91 / 4.0, rank 1 / 173 (first term), 88/100 (overall) · Class Rep, ACM Team training.

Nanyang Model High School

Sep 2018-June 2021

· Physics Rep, Leader of a research project.

· Awarded ShuPing Scholarship twice

HONORS AND AWARDS

Gold Medal in UK Tech Arena 2022 with £7000 [C and C++, Compression, Concurrent]

10 Oct-26 Nov 2022

Learning and researching from scratch in a month, digesting lots of papers and source code available, like RFC1951, etc.

· Responsible for implementation & improvement of LZSS. Engaging in pre-processing, serialization with teammates.

· Optimization using C pointers, bitwise operators & hash tables. GPU optimization: Branch Prediction.

· Multi-threading, Parallelization, Concurrent Processing. [Project](#) | [Blog](#)

· In a team of 4, Leading the team and communicate with other teammates.

Top 2 Team in Mercuria Hackathon 2022 [Python, Data Analysis, Route-Planning]

16 Dec-18 Dec 2022

Using data analysis to accelerate the energy transition and reduce the carbon emissions of the maritime industry.

· Networking and collaborating with senior engineers, excellent undergraduate, Master and PhD students from all around the Europe.

Jardine Scholarship, issued by Jardine Foundation

Feb 2022

Merit-based, fully-funded Scholarship during my Undergraduate at University of Cambridge

Adolescents' Science and Technology Innovation Contest Third Place [Research]

Apr 2020

issued by Shanghai Association for Science and Technology, Shanghai Municipal Education Commission

· Deep research into the phenomenon of tire-locking, including why it may happen and its pros and cons using Force Analysis.

· Introduced the Anti-lock braking system into our research by our mentor. Self-made physical simulation test for tire-locking.

Accepted for Publication Twice [English Essays in Shanghai Student Post]

Oct 2018, May 2019

· Topic: Effective Ways to Overcome Obstacle in Study, Campus Life without Snack Stores.

PROJECTS AND ASSIGNMENTS

Computer Vision [Stanford CS231n] [Project](#) [Github](#)

Jan 2023

· Python, Numpy, kNN, Softmax, SVM classifier, Cross Validation

Machine Learning and Real-world Data [Cambridge Part IA] [Project](#) [Github](#) | [Blog](#)

Jan 2023

· Text Classification using ML with improvements, including Naive Bayes classifier, Cross-Validation, NLP, HMM

Artificial Intelligence Stanford CS229 [Project](#) [Github](#)

Oct 2022

· Linear classifiers (Logistic Regression, GDA), Stochastic Gradient Descent, L1 L2 Regularization, SVM

Database Design Project (C++) [CMU15-445 Project] [Project](#) [Github](#) | [Blog](#)

Aug-Oct 2022

· Buffer Pool Management System, Latch, LRU

· Replacement policy. In order to solve the concurrent problem, implement the Parallel Buffer Pool Manager.

· Using C++ STL, Google C++ Style Guide

Computer Graphics (C++, OOP, OpenGL) [MIT6.837 Assignment] [Project](#) [Blog](#)

Jul-Sep 2022

· Ray casting, normal visualization, rendering, voxel rendering, super sampling and 3D

· Huge OOP project, with 3D objects, light, camera classes. Building over 20 C++ source files from scratch.

· Composite design pattern for 3D objects class hierarchy with transformation.



Personal Website and Blog [Portfolio](#)

Aug 2022

· Built up from scratch using HTML/ CSS · Deployed by React to enable high code reuse.

Multifunctional Supermarket Management System (C++, OOP) [Project](#) | [Blog](#)

Apr 2022

· Inheritance, polymorphism (Operator Overloading); Read/Write Files, etc

Typing Game (C & EasyX) [Project](#) [Github](#) | [Blog](#)

Dec 2021

INTEREST AND EXTRACURRICULAR ACTIVITIES

Music, Swimming, Yoga, Gym, Helping others etc. | Society Joined: Ethics in Mathematics
Economics Related Topics: Macro & Micro, Money Banking

[Portfolio](#): <https://peterhuistyping.github.io>