


Peter HU

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

CONTACT

 zh369@cam.ac.uk |  (+44) 07990719841
 [LinkedIn](#) |  [Github](#) |  [Portfolio](#)

What I really enjoy is the beauty of CS and its application in real life. I am open to new fields of area and enjoy exploring unknown features.

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 · Graphics 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 Scheduling, Memory (Segment, Page, VM), I/O, File, Linux · bash/shell · Digital Electronic
Development Tools · git (Version Control), CI/CD pipeline, Docker, Visual Studio, VS Code, Pycharm, Github/Gitlab, IntelliJ IDEA.

WORK EXPERIENCE

GPU Software Engineer Intern Huawei Technologies Research & Development (UK) Ltd, Cambridge *Dec 2022- Present*
· C++, CMake, Gdb, Git version control, CI/CD pipeline, CMake, hands-on experience on Linux server, etc.
· Introducing independent full automation tools in the project, reducing error rate to nearly 0%. [Tool](#)
· Familiar with workflow of GPU industry, Vulkan graphics API; Projects on GPU driver and verification, Game Engines (UE4).
· Working and collaborating with colleagues, like helping fixing C++ build or link errors.

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, Yoga, Gym, Helping others etc. | Society Joined: Ethics in Mathematics | Macro & Micro, Money Banking

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