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

**CONTACT**
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LinkedIn | Github | Portfolio

## SKILLS

·C ·C++ ·Java ·OOP ·HTML/ CSS ·CMake ·Gdb ·bash/shell ·git ·Algorithms and Data Structure
·Database ·SQL ·NoSQL ·Latex ·Functional Programming (OCaml) ·Digital Electronic
·Python ·NumPy ·Machine Learning ·Deep Learning ·Natural Language Processing ·Computer Vision
·Computer Graphics ·Vulkan ·GPU 3D Pipeline ·GPU driver ·Game Engines/ Unreal Engine
*Development Tools* Visual Studio Code, Visual Studio, Pycharm, Github, IntelliJ IDEA
·Calculus ·Linear Algebra ·Discrete Math ·Probability and Statistics ·Abstract Algebra ·Topology (basic)

## 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** *Dec 2022- Present*
Huawei Technologies Research & Development (UK) Ltd Cambridge, England, United Kingdom
Skills: C++ · CMake · Vulkan · GPU 3D Pipeline · GPU driver · Game Engines/ Unreal Engine · Gdb

## EDUCATION

**University of Cambridge** *Oct 2022- Present*
Undergraduate in Computer Science
*-Merit-based, fully funded Jardine Scholarship*

**Xiamen University** *GPA: 3.91 / 4.0 (first term), 88/100 (the whole year)* *Sep 2021-June 2022*
Undergraduate (First Year) in Software Engineering
*-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 Huawei Tech Arena 2022** *£7000* [C and C++, Compression, Concurrent] *10Oct-26Nov 2022*
· 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] *16Dec-18Dec 2022*
*Using data analysis to accelerate the energy transition and reduce the carbon emissions of the maritime industry.*
*Great Team Work, Collaboration.*
*Networking 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*

## 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

**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, Buffer Pool Manager Instance. 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.

**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*

**Algorithm and Data Structure (C++, Java) [**MIT 6.006 Intro to Algorithm**]** Project (Github)

## 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