

# RUNZE (AIDEN) CHENG

E14 9AJ | 4 Mastmaker Rd, London, UK  
cn.aiden.cheng@gmail.com | +44 7443089654 | github.com/AidCheng

## About Me

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- Currently looking for Internship/Graduate/Research with respect to Computing.
- My final year project focuses on variation autoencoder, diffusion model and optimization.
- Proficiency in **Python**, C/C++, Java, Rust, GoLang.
- Strong interests in Machine Learning, Data Analysis, and Computer Graphics.
- Tech Stacks: UNIX, Docker, Git, RESTful, Gin, Springboot.
- DevOps: CI/CD, TDD

## Education

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### University College London

BSc Computer Science

London, UK

Sept. 2023 – Present

- **Core Courses:** Software Engineer, Graphics, Machine Learning and Visual Computing
- **Grade:** First Class (with distinction)

### University College London

Undergraduate Preparatory Certificate for Sci. and Eng.

London, UK

Sept. 2022 – June 2023

- **Grade:** Passed with distinction (87%) with 97% in Physics and 94% in Math.

## Work Experience

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### Chinese Academy of Science, Institute of Software (ISCAS)

API Engineer, Internship

Remote

July. 2025 – Present

- Contributed to a project that builds a **Rust**-based implementation of Git and Github.
- Refactored large-scale codebase by designing a modular engine, abstracting the commons across modules.
- Developed custom **RESTful** APIs for with comprehensive test coverage.
- Designed GPG key verification model and service and integrated into merge-checker pipeline for authentication.

### Doyle Shipping Group

Head of Development, Part-time

London, UK

Jun. 2025 - Present

- Led development of a web application using **Go, Gin, GORM and AzureSQL**.
- Designed tokens for OAuth2 authentication and email content retrieving with a secure principle.
- Utilized **Gemini API and Azure AI** for document analysis.
- Design prompt and increased the analysis result to over *95% of correctness* across files with different templates

### Intel Corporation

Software Developer, Part-time

London, UK

Oct. 2024 – Apr. 2025

- Developed an audio signal processing Electron app leveraging Intel's NPU and GPU acceleration, designed to respond different visual effects to hand gestures and audio frequencies.
- Implemented **Three.JS** shader to render interactive particle effect and respond to the auditory output.
- Used **Gemma** to interpret the lyrics and send generated JSON prompt to **Stable Diffusion** to create the corresponding component.
- Optimized AI processing using Intel OpenVINO for backend, enabling efficient model deployment across CPU, GPU, and NPU.

## Project Experience

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### Metameric Foveated VAE for High-Fidelity Video Compression

Supervised by Dr. Kaan Aksit

London, UK

June. 2025 - Present

- Implemented a novel VAE model based on foveated modeling, applying to high-quality frame-stream compression using CUDA and PyTorch.
- Explored the feasibility of integrating Guassian Splatting with Perceptual Similarity and Metameric Inpainting
- Currently conducting experiments in designing model's architecture and find appropriate candidate

## Awards

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### Student EDI Award 2025

Third prize

London, UK

### The Mathematical Contest in Modelling (MCM) 2024

Successful Participant

London, UK

2024