# Zicheng Liang

Github ↗ | My Portfolio ↗ | LinkedIn ↗
liangzicheng02@gmail.com | +353 899823558

## EXPERIENCE

**RESEARCH ASSISTANT** | TRINITY COLLEGE DUBLIN
Feb 2025 - Apr 2025
- Analyzed a LLM chatbot performance by writing manual test cases
- Identified key issues such as hallucination and UI/UX drawbacks for research report inclusion

## PROJECTS

**BEAT BOT** ↗ | AGENTIC WORKFLOW DEVELOPER & DEVOPS
Jan 2025 - Apr 2025 | Mentored by IBM engineers
- Architected an AI music composition workflow by synthesizing 10 research papers + music theory
- Implemented the agentic workflow using LangGraph, leveraging parallelization and map-reduce patterns to optimize performance, cutting generation time by 50%.
- Streamlined application delivery through Docker containerization.
- Managed deployments across AWS-ECR/ECS (initial phase) and Vercel+Railway (subsequent iteration).
- Followed agile development pattern, reporting progress and integrating architectural and research insights from weekly client (IBM mentor) meetings.

**GITLET** ↗ | A CLI TOOL IMPLEMENTING GIT'S BASIC FEATURES
Jul 2024 – Aug 2024 | UC Berkeley CS61B - Data Structure & Algorithm
- Built a version control tool with 13 Git-style commands, including add, commit, checkout, and merge.
- Applying Data Structures including List, Trees, Maps, Graphs; Algorithms including Tree's Lowest Common Ancestor.
- Implemented Java File I/O, serialization, and SHA-1 hashing for secure data management.

## ACTIVITIES & EVENTS

**GOOGLE CODE RETREAT** | GOOGLE DUBLIN OFFICE
25th Apr 2025 | Google Ireland
- Rebuilt Conway's Game of Life in 6 iterations with fast-changing requirements
- Applied Test Driven Development into 4 iterations
- Pair-programmed with 3 partners, including a Google engineer

**IRL-CPC** | UNIVERSITY COLLEGE CORK
1st Mar 2025 | ACM Student Chapter

Ranked 9th among 70 teams in Ireland's Collegiate Programming Contest

**HACKIRELAND** | DOGPATCH LAB
27-28th Mar 2025 | HackIreland

Developed a spoken-English companion for non-native speakers with OpenAI's Realtime audio API

## EDUCATION

**TRINITY COLLEGE DUBLIN**
BACHELOR OF COMPUTER SCIENCE
Sept 2023 - Jul 2027 | Dublin, Ireland
Grade: I (avg. 85/100)

## SKILLS

**PROGRAMMING**
Python, C/C++, Java

**WEB DEV**
Javascript/Typescript, CSS, HTML
Next.js, React, Flask, PostgreSQL

**AI/ML**
LangGraph/LangSmith
Tensorflow

**DEVOPS**
Docker
AWS EC2/ECR/ECS

**OS & TOOLS**
Linux (NixOS)
Git/GitHub/GitLab

## COURSEWORK

**COLLEGE COURSE**

Algorithm & Data Structure I: 72

Algorithm & Data Structure II: 85

System Programming: 92

Discrete Maths: 90

**OPEN COURSE**

Joy of React by Josh Comeau

CS61B Data Structures by UC Berkeley

Supervised Machine Learning: Regression and Classification by Andrew Ng

## OTHER

Visa: Stamp 4 - Permanent resident