

DEKUN ZHANG

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EDUCATION

BSc Computer Science, UCL

2021 - Present

First Year: Earned Upper Second-Class Honours, averaging 66%

Second Year: Achieved First-Class Honours, averaging 75%

Relevant Coursework: Algorithm, Computer Architecture and Concurrency, Discrete Mathematics, Engineering Mathematics in Finance, Logic, Object-Oriented Programming, Security, Software Engineering, Computability and Complexity Theory, Compilers, Data Mining and Analysis, Stochastic Calculus and Uncertainty Analysis, Computer Graphics, Machine Learning for Visual Computing

Undergraduate Preparatory Certificate, UCL CLIE

2020 - 2021

Modules: Mathematics (93%), Physics (93%), Science and Society (79%), Academic English (72%)

Final Grade: 84%, Distinction

RESEARCH EXPERIENCE

Summer Research Intern

Mar 2023 - Present

UCL Computer Science Department

London, UK

- Participating in collaborative research with Dr. Sergey Mechtaev. Manuscript in preparation.

Research Project

2021

UCL Centre for Languages and International Education

London, UK

Supervisors: Leah Nicholls, Elizabeth Barnett

- Investigated the potential of photovoltaic power generation as a primary energy source in China.

PROJECTS

Comprehensive IFRC Data Analysis System Engineered an intricate system to expedite the process of data procurement, sanitation, categorisation, consolidation, segmentation, and evaluation of historical, high-frequency, low-impact natural disasters from public data repositories, inclusive of national disaster loss databases (DesInventar and EM-DAT). This initiative's culmination was disseminated via the IFRC GO platform and made accessible as open-source on GitHub Repositories, thus, fostering further ingenuity and evolution in this arena. Collaborated with the International Federation of Red Cross and Red Crescent Societies. ([Accessible here](#))

ESP32-MQTT-WOL Undertook research and development of software harnessing Internet of Things (IoT) devices to facilitate remote activation of devices nestled within a local area network employing the MQTT protocol.

Shell Architected a command-line interface application with the proficiency to execute a diverse range of commands, comprising cd, ls, cut, grep, and head, through the utilisation of Python programming language and ANTLR parser generator.

tensorflow-condavenv Formulated an assembly of scripts to streamline the administration of conda environments featuring tensorflow GPU capabilities.

ChatGPT Docstring Generator Curated a comprehensive guide designed to aid in the generation of high-calibre docstrings for provided code, leveraging the capabilities of ChatGPT.

Next-gen music therapist for psychiatric patients Conceptualized and brought to fruition during the 2023 UCL CSS x TechSoc Hackathon, the project encapsulates a wearable device integrated with sensors and an AI-driven music therapy designer, a mobile application, and an administrative portal website. It further features a cloud-based therapist able to detect patients necessitating urgent medical attention.

Bioreactor Crafted with heating, stirring, and pH subsystems, and interfaced with ThingsBoard via RPC protocol. Integrated the Arduino UNO and ESP32 using the I2C protocol.

SKILLS

Programming Languages	(Proficient) Python, Java, C; (Familiar) Haskell, HTML, C++, Shell
English Proficiency	CEFR C1 Level (2021) Overall 7, Listening 6.5, Reading 8, Writing 7, Speaking 7
Software Proficiency	Git, GitHub, L ^A T _E X, Arduino, Microsoft Office, Zotero, XMind, 3D Builder
Hardware	3D Printing, Basic Circuit Design and Implementation
System Operation	Proficient with Vim, SSH, SCP, Nginx, Docker
Network Management	Expertise in SD-WAN (Wireguard, ZeroTier, SoftEther, n2n), FRP(fast reverse proxy), VLAN, Switch and Router Operations (ufw, iptables)
Soft Skills	Proficient in Problem-solving, Critical thinking, Stress management, Adaptability

WORK EXPERIENCE

Student Ambassador	Nov 2021 - Aug 2022
UCL Centre for Languages and International Education	<i>London, UK</i>

- Assisted potential students in grasping the essence of UPC studies and led comprehensive campus tours.

Transition Mentor	Sep 2021 - Dec 2021
UCL Centre for Languages and International Education	<i>London, UK</i>

- Rendered advice, guidance, and support to newcomers during the initial term of their programme.

IT Manager, Assistant General Manager	May 2021 - Sep 2021
Zhengda Dingsheng Financial Management Consulting Ltd, Gansu Branch.	<i>Lanzhou, China</i>

- Managed procurement of hardware including personal computers, printers and routers during the company's inception, established intranet connectivity, and advertised job postings online.
- Assisted the General Manager in procuring office furniture and managing reimbursements.
- Troubleshoot and resolved difficulties pertaining to office software usage for new employees.

ACCOLADES

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| • Third prize laureate in the Shaanxi Olympiad in Informatics | 2020 |
| • Distinguished as second-place winner and first-prize recipient in the Shaanxi Adolescent Robotics Competition. | 2019 |

EXTRACURRICULAR ENDEAVORS

- Participated in the upkeep of OpenWrt (a customisable operating system for routers) and Xray (a network proxy).
- Instigated a personal blog and regularly updated with nine entries, each tackling intricate technical conundrums.
- Conceived a five-part video tutorial series, amassing a total of 250 subscribers, 43,889 views, and 293 likes.
- Volunteered as an audio editor and post-processor for a gaming news channel, amassing a substantial following of 72,203 subscribers, with over 2,097,000 plays.

LEADERSHIP

- Enacted as the President of the Robotics Society in high school. Through my guidance and strategic direction, society members triumphed in the Shaanxi Adolescent Robotics Competition, securing all three prizes.

REFERENCE

Available upon request.