

# DEKUN ZHANG

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## EDUCATION

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### 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

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### 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

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**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-condo-env** 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

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<b>Programming Languages</b>	(Proficient) Python, Java, C; (Familiar) Haskell, HTML, C++, Shell
<b>Programming Skills</b>	Architecting, Data Analysis, Web Crawler, Backend Developing
<b>English Proficiency</b>	CEFR C1 Level (2021) Overall 7, Listening 6.5, Reading 8, Writing 7, Speaking 7
<b>Software</b>	Git, GitHub, L <sup>A</sup> T <sub>E</sub> X, Arduino, Microsoft Office, Zotero, XMind, 3D Builder Adobe Photoshop, Audition, Premiere Pro, Illustrator, DaVinci
<b>Hardware</b>	3D Printing, Basic Circuit Design and Implementation
<b>System Operation</b>	Proficient with Vim, SSH, SCP, Nginx, Docker
<b>Network Management</b>	Expertise in SD-WAN (Wireguard, ZeroTier, SoftEther, n2n), FRP(fast reverse proxy), VLAN, Switch and Router Operations (ufw, iptables)
<b>Soft Skills</b>	Proficient in Problem-solving, Critical thinking, Stress management, Adaptability

## WORK EXPERIENCE

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<b>Student Ambassador</b>	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.

<b>Transition Mentor</b>	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.

<b>IT Manager, Assistant General Manager</b>	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

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- Participated in the upkeep of OpenWrt (a customisable operating system for routers).
- 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 over 72,000 subscribers, with over 2 million plays.

## LEADERSHIP

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- 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

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Available upon request.