DEKUN ZHANG

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EDUCATION

BSc Computer Science, UCL   2021 - Present
First Year: Upper Second-Class Honours with an average grade of 66%
Second Year (Marks Partially Released): Software Engineering 87%
Relevant Coursework: Algorithm, Computer Architecture and Concurrency, Discrete Mathematics,
Engineering Mathematics in Finance, Logic, Object-Oriented Programming, Security, Software Engineering

Undergraduate Preparatory Certificate, UCL CLIE   2020 - 2021
Modules: Mathematics (93%), Physics (93%), Science and Society (79%), Academic English (72%)
Grade: 84%, Distinction

SKILLS

Languages	(Fluent) Python, Java, C; (Familiar) Haskell, HTML, C++, shell
Software	Git, GitHub, LaTeX, Arduino, Microsoft Office, Zotero, XMind, 3D Builder
Hardware	3D Printer, Circuit Design and Connect, Soldering Iron
System Operation	Vim, SSH, SCP, Nginx, Docker
Network Management	SD-WAN (Wireguard, ZeroTier, SoftEther, n2n),
	FRP(fast reverse proxy), VLAN, Switch and Router Operation (ufw, iptables)
Soft Skills	Problem-solving, Critical thinking, Stress management, Adaptability

EXPERIENCE

Research Assistant   Mar 2023 - Present
UCL Computer Science Department   *London, UK*

- Engage in a collaborative research with Dr. Sergey Mechtaev.

Student Ambassador   Nov 2021 - Aug 2022
UCL Centre for Languages and International Education   *London, UK*

- Help future students understand what it's really like to study on the UPC and give campus tours.

Transition Mentor   Sep 2021 - Dec 2021
UCL Centre for Languages and International Education   *London, UK*

- Provided advice, guidance and support to new students in the first term of their programme.

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

- During the nascent stage of the corporation, tasked with the procurement of personal computers, printers and routers. Established the intranet. Published a job advertisement on the Internet.
- Aided the General Manager in the acquisition of office furnishings and in reimbursements.
- Resolved the issues pertaining to utilisation of office software for newly hired staff members.

RESEARCH EXPERIENCE

Research Assistant   Mar 2023 - Present
UCL Computer Science Department   *London, UK*

Research Project   2021
UCL Centre for Languages and International Education   *London, UK*
Tutors: Leah Nicholls, Elizabeth Barnett

- To what extent can photovoltaic power generation become a main power generation method in China?

PROJECTS

Comprehensive IFRC Data Analysis System Partnered with the International Federation of Red Cross and Red Crescent Societies to develop a software application which facilitated the Downloading, Cleaning, Categorising, Aggregating, Slicing, and Analysis of past high-frequency, low-intensity natural disasters from public data sources including national disaster loss databases (DesInventar and EM-DAT), using Python libraries such as Requests, Pandas, Numpy, BeautifulSoup and Matplotlib. The ultimate goal was to generate exceedance curves for multiple impacts, covering as many National Societies as possible. The outcome of this initiative was disseminated via IFRC GO platform and made available as open-source GitHub Repositories, allowing for further innovation and progress in this field. [(Available here)](#)

ESP32-MQTT-WOL Leveraging Internet of Things (IoT) devices to enable remote activation of devices located on a local area network using MQTT protocol.

Shell Constructed a command-line interface application that is capable of executing a variety of commands, including cd, ls, cut, grep, and head, through the use of Python programming language and ANTLR parser generator.

tensorflow-conda-env Devised a suite of scripts that facilitate the efficient administration of conda environments with tensorflow GPU capabilities.

ChatGPT Docstring Generator Composed a compendium of guidelines aimed at assisting in the production of superior-quality docstrings for supplied code, utilising the resources of ChatGPT.

Next-gen music therapist for psychiatric patients Conceptualized and produced during the 2023 UCL CSS x TechSoc Hackathon, the project includes a wearable device with sensors with an AI-powered music therapy designer, a mobile application, and an administrative portal website. It also has a cloud-based therapist that can identify patients who need urgent medical attention. The technology stack used is Python, Arduino C++, and JavaScript.

Bioreactor A bioreactor was built with heating, stirring, and pH subsystems, and connected to ThingsBoard via RPC protocol. The Arduino UNO and ESP32 were connected via I2C protocol.

AWARDS

- Third prize in Shaanxi Olympiad in Informatics   2020
- Second place and first prize in the Shaanxi Adolescent Robotics Competition.   2019

EXTRA-CURRICULAR ACTIVITIES

- Took part in the maintenance of OpenWrt (operating system for routers) and Xray (network proxy).
- Established a personal blog and updated several posts containing solutions to complex technical problems.
- Produced a series of five videos designed to provide tutorials, which garnered a total of 250 subscribers, 43,889 views, and 293 likes.
- Volunteering as an audio editor and post-processor for a gaming news channel. The channel has since amassed a substantial following of 72,203 subscribers, with over 2,097,000 plays.

LEADERSHIP

- Acted as the President of the Robotics Society in high school. Through my guidance and direction, society members excelled in the Shaanxi Adolescent Robotics Competition, securing first, second, and third prize awards.

REFERENCE

Available on request.