**Lingyu Gong**

+(353) 0873323259 | [gongl@tcd.ie](mailto:1134527726@qq.com) | Binary Hub, Bonham Street, Dublin 08, Ireland

**EDUCATIONAL BACKGROUND**

**Trinity College Dublin Dublin, Ireland**

Postgraduate Degree Programme 09.2023-Present

* **Programme: MSc** Electronic Information Engineering
* **GPA:** 66/100
* **Coursework:** Algorithms for Quantum Computing, Integrated Systems Design, Self Organising Technological Networks, Open Reconfigurable Networks, Deep Learning and Its Applications, etc.

**Capital Normal University Beijing, China**

Undergraduate Degree Programme 09.2019-06.2023

* **Programme: BSc** Computer Science and Technology (Education)
* **GPA:** 3.51/5.0
* **Coursework:** Operating Systems, Digital Logic Circuits, Principles of Compilation, Principles of Computer Composition, EDA and its Practice, etc.

**GRADUATION PROJECTS**

**Enhancing NoC Network Predictions with Advanced AI Techniques**  **Dublin, Ireland**

Project Holder/Researcher 12.2023-Present

* Apply cutting-edge AI techniques to significantly improve the efficiency and accuracy of network-on-chip (NoC) key parameter prediction, provide data support and intelligent guidance for NoC network design and optimization
* Build and simulate multiple NoC network scenarios utilising Booksim2 to generate datasets containing rich features and high-quality labels, providing a solid foundation for AI model training
* Perform strict data cleansing and preprocessing on the simulated dataset, and implement feature selection and extraction strategies to enhance the characterization ability of the dataset and improve the model training effect
* Select and apply appropriate machine learning algorithms according to the specific needs of NoC performance parameter prediction, especially linear regression models
* Train the linear regression model using the pre-processed dataset, run the test dataset with this model, and compare the predicted results of the trained model with the real results generated by the Booksim2 simulator

**Research on Open Source NoC Based on Intelligent Routing Algorithm**  **Beijing, China**

Project Holder/Researcher 8.2022-5.2023

* Conducted research on NoC, explored the form and classification of topologies, the implementation of NoC routing algorithms, and the concepts, features and test validation of open-source NoC generators
* Studied a commonly used NoC routing algorithm - XY routing algorithm, such as its definition, feature and implementation, and realized the testing and simulation of XY routing algorithm using OPNET software
* Analyzed the test results of the delay and throughput generated under the establishment of the model from the introduction of the environment to the analysis of the experimental results
* Researched on three main open-source NoC generators - OpenSoC Fabric, OpenSMART and Constellation (e.g., concepts, definitions, characteristics, etc.), tested and validated them, and specifically showed the test reproduction process of Constellation, a generator based on Chipyard environment

**SELECTED RESEARCH PROJECTS**

* **Realisation of Laboratory Swipe Card Notation System:** Designed a laboratory card system, achieved efficient and intelligent personnel registration and management through the integration of a variety of hardware components and software development, consisted the front-end display, back-end processing and hardware implementation; Conducted PCB and hardware design, utilised magnetic cards, a RFID module, a Led display, a buzzer, and the ESP8266 development board to complete the design, as well as carried out system integration and testing
* **Design & Research of a 3D Modeling Course:** Led the team to carry out in-depth design and research of 3D modeling courses, focused on the use of Rhino modeling software and explored how AI technology could enhance the teaching and learning process to improve modeling efficiency and innovation; Explored how AI could assist the 3D modeling process, such as using machine learning algorithms to optimise model topology, automatically generating detailed textures, predicting design trends, etc., and introduced AI-assisted design plug-ins to improve modeling efficiency and creativity
* **Exploring Solutions for Data Restoration Using Protection Cards:** Got familiar with the key points of computer configuration, the use and installation of the protection card, and understood the computer room’s management principles; Took part in project summary and preparation for closing presentation; Summarised the final works and conducted the concluding defence

Continued

**Lingyu Gong**

+(353) 0873323259 | [gongl@tcd.ie](mailto:1134527726@qq.com) | Binary Hub, Bonham Street, Dublin 08, Ireland

**PROFESSIONAL TRAINING**

**Institute of Computing Technology, Chinese Academy of Sciences**  **Beijing, China**

Visiting Student 08.2022-05.2023

* Responsible for researching and implementing NoC modules, organizing project materials, attending group meetings, and participating in the relevant discussions regularly
* Enhanced information system development and programming skills and collaboration/problem-solving capacities

**Massachusetts Institute of Technology**  **Boston, United States**

Engineering, Design, Gaming and Entrepreneurship (EDGE) Program for STEM 08.2022-05.2023

* Studied the entire process of game making systematically, such as determining the users for the game, defining the meaning of making the game, determining the type and presentation, and building a system model
* Grasped the application of Tale Blazer and APP Inventor in game design and development
* Designed and developed a physics history popular science story game for all ages within the team

**INTERNSHIP EXPERIENCES**

**The Auld Dubliner**  **Dublin, Ireland**

Part-time Bartender 01.2023-04.2024

* Integrated into the local community by interacting with customers and colleagues, enhanced social skills and practice English extensively, and improved English communication skills significantly
* Developed strong independent and self-reliant skills through managing work and personal responsibilities, enhanced capacity to handle stress in a fast-paced work environment, and gained valuable experience in social interactions and cultural exchange with local residents

**Capital Normal University High School**  **Beijing, China**

Trainee IT Teacher 09.2022-11.2022

* Prepared and taught IT lessons (C++) to junior middle school students, as well as utilised a range of educational technologies and visual communication techniques to support the design of online training materials
* Designed and delivered IT courses according to the syllabus and students' actual situation, and ensured the accuracy and timeliness of the teaching content
* Engaged in students' innovative club activities to enhance their IT learning enthusiasm, formulated personalised learning plans for students in line with their learning progress, and provided targeted guidance and assistance

**SELECTED AWARDS & COMPETITIONS**

**Beijing, China**

* Title of Outstanding Graduation Thesis, 2023
* Beijing Merit Student, 2021-2022 Academic Year
* University-level Merit Student/Major First Class Scholarship, 2021-2022 Academic Year
* Major 2nd Class Scholarship, 2019-2020 Academic Year

**Dublin, Ireland**

* Irish Badminton Intervarsities Champions, 2023-2024 Academic Year
* Student Sport Ireland Badminton Cup Champions, 2023-2024 Academic Year
* Student Sport Ireland Badminton League Champions, 2023-2024 Academic Year

**LEADERSHIP & EXTRACURRICULAR ACTIVITIES**

* Beijing Winter Olympics Volunteer Regional Chief PROFESSIONAL, 2022
* Beijing Winter Paralympics KMS/BMS Mock Athlete, 2022
* President of the Student Union, Capital Normal University, 2020-2023

**OTHER SKILLS & SELF-EVALUATION**

* **Languages:** Mandarin (Native), English (Fluent)
* **Athletics:** Badminton National Level Athlete
* **Software Skills:** Proficient in C++, C, Verilog, Matlab, Python, MS Office, etc.

**STRENGTHS & SELF-EVALUATION**

* **Strong Learning Ability:** Be able to quickly grasp new concepts and skills, which can be seen through consistent academic and professional developments/achievements
* **Optimistic and Positive:** Possess a positive attitude and approach challenges with optimism and enthusiasm
* **Intercultural Communication Skills:** Effective in verbal and written communications with proficiency in both English and Chinese
* **Core Team Player:** Enjoy working collaboratively and contributing to team success, while also being capable of working independently and effectively