

Lingyu Gong
5, 230 S Circular Rd, D08 KF5F, Ireland
gongl@tcd.ie
(+353) 0873323259
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University of Groningen, Netherlands
Groningen, Netherlands

Motivation Letter - Application for the FPGA-Based Computing System Design

Dear Admissions Committee,

I am writing to express my strong interest in the "FPGA-Based Computing System Design" PhD programme at the University of Groningen. With a solid foundation in FPGA design and AI from both my undergraduate and master's studies, I believe I am well-equipped to contribute to and benefit from your esteemed programme.

During my undergraduate studies, I developed a comprehensive understanding of FPGA design through courses like Digital Logic Circuits, Principles of Computer Composition, and EDA Understanding and Practice. I engaged in hands-on projects, including the design of a pipelined CPU in Verilog and an FPGA-based Snake game, which deepened my knowledge of FPGA applications and hardware design processes.

In my master's program, I expanded my expertise into AI, particularly in the course "Deep Learning and Its Applications." My final project focused on Tumor Segmentation and Classification using deep learning, achieving an F1 score of 0.89. My master's thesis, "Enhancing On-Chip Network Predictions with Advanced AI Techniques," further cemented my interest in the intersection of AI and hardware design. I explored how AI can optimize complex hardware systems, specifically through the use of linear regression models to improve Network-on-Chip (NoC) design.

My research interests lie at the crossroads of embedded systems, AI, and hardware design, with a focus on creating efficient AI computing platforms through hardware acceleration strategies. I am particularly passionate about FPGA and ASIC-based computing systems and how these technologies can be tailored to enhance AI model performance.

The University of Groningen's focus on bridging performance gaps in FPGAs through customization, while maintaining flexibility and scalability, aligns perfectly with my research aspirations. I am eager to contribute my skills to the development of innovative hardware platforms that will support the next generation of AI applications.

Thank you for considering my application. I look forward to the opportunity to further discuss how my background and interests align with your programme.

Yours sincerely,
Lingyu Gong