

Tianyi Gao

CONTACT INFORMATION	Informatics Forum, 10 Crichton Street Edinburgh, UK, EH8 9AB	tianyi.gao@ed.ac.uk tianyigao.net
INTERESTS	Computer Networks and Operating Systems	
EDUCATION	University of Edinburgh Ph.D. in Informatics • Supervisor: Michio Honda	Edinburgh, UK Dec. 2022 – April 2027 (<i>Expected</i>)
	University of Edinburgh M.S. in Computer Science, Distinction • Rank: Top 1 in the whole MSc in CS (Class Prize awarded) • Thesis: Securing the Homa Transport Protocol (Outstanding Thesis) • Key Courses: Computer Architecture and Design, Parallel Architecture, Security Engineering, Extreme Computing, Advanced Database Systems, Machine Learning Practical	Edinburgh, UK Sept. 2021 – Nov. 2022
	University of Nottingham B.S. in Computer Science w. Artificial Intelligence, 1st Class	Ningbo, China & Nottingham, UK Sept. 2017 – August 2021
	COMPUTER SKILLS Programming Languages (Proficient) C; (Competent) Python, Java; (Beginner) C++, Rust, GoLang, Solidity, Scala, SQL, Verilog Tools & Software Linux System Administration, Bash, GNU Make, Git, L ^A T _E X, Docker, PyTorch	
HONORS, AWARDS, SCHOLARSHIPS	Computer Science MSc Class Prize (Highest Overall Mark), University of Edinburgh	2022
	Informatics Graduate School PhD Scholarship (<i>GBP £145,838</i>), University of Edinburgh	2022
	Nottingham Advantage Award, University of Nottingham	2021
	4 th at the UoN Programming Contest, University of Nottingham	2019
	Vice-Chancellor’s Medal (Xiaoshan UNNCer Team), University of Nottingham	2019
	Dean’s List (CNY ¥6,000), University of Nottingham	2019
	Head’s List (CNY ¥3,000), University of Nottingham	2018
PUBLICATIONS	Tianyi Gao , Xinshu Ma, Suhas Narreddy, Eugenio Luo, Steven W. D. Chien, and Michio Honda, “ <i>Designing Transport-Level Encryption for Datacenter Networks</i> ”, To appear in IEEE Security & Privacy (S&P) 2026 .	
	Shuo Li*, Steven W. D. Chien*, Tianyi Gao , and Michio Honda, “ <i>Remote TCP Connection Offload with XO</i> ”, In Proceedings of the 9th Asia-Pacific Workshop on Networking (APNet), Aug 2025.	
TALKS	HomaLS: Tunneling Messages through Secure Segments Netdev 0x16, The Technical Conference on Linux Networking	[Web] [Video] [Slides] Lisbon, Portugal

TEACHING	Computer Communications and Networks <i>Teaching Assistant</i>	University of Edinburgh 2023 – 24, 2024 – 25
VOLUNTEERING	The UK & Ireland Programming Contest (UKIEPC) <i>Co-Coordinator</i>	University of Edinburgh Site 2023, 2025
WORKING EXPERIENCE	Advanced Institute of Information Technology, Peking University <i>System Software Engineer, Internship</i> - Improved the Groth16 algorithm efficiency using three techniques: 1. NUMA affinity optimization and removal of unnecessary security features; 2. Code optimization and sparse array compression; 3. Integration of the state-of-the-art GPU computation algorithm on the mathematical operator (multi-exp) Proof generation decreased from 52 minutes to 22 minutes, and physical memory footprint decreased from 190 MiB to 80 MiB on E5-2678v3x2 machines; - In the project of developing a platform for place and route (P&R) processing with Electronic Design Automation (EDA) tools, I developed an agent software in GoLang, which receives jobs, and launches EDA tools and uploads the results to file servers. That agent is currently being used in production; (Supervised by Professor Guangyu Sun)	Hangzhou, China June 2020 – Nov. 2020