Brian (Shao-You) Wu

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Experienced software engineer, especially in 4G/5G, had experience in system design, implementation, optimisation, academic research, paper publication and mentoring. Familiar with SDN, RAN, WSN and some popular programming languages. Self-taught web development by React/CSS/HTML/JavaScript and built a website with important schemes. Originally from Taiwan and living in Manchester, granted a dependent-partner visa eligible to work full-time and will not require sponsorship until 30/4/2026. A quick learner with learning passion and willingness. Looking forward to contributing the strengths to deliver high-quality work output through innovative approaches and teamwork.

EDUCATION

M.Sc. in Network Engineering | National Chiao Tung University | Hsinchu, Taiwan | 09/2013 - 09/2015

- GPA: 4.17/4.3
- Studied Software-Defined Network (SDN) and developed an SDN management system as a realistic application demo.
- Thesis: "Network-path-aware Traffic Monitoring and Use Cases for OpenFlow-based SDN"
  - Proposed a novel way to flexibly monitor SDN traffic by installing commands into network devices.
  - Published in "PathMon: Path-specific traffic monitoring in OpenFlow-enabled networks," 2016 ICUFN.

Exchange Student in Computer Science and Technology | Tsinghua University | Beijing, China | 02/2013 - 06/2013

B.Sc. in Computer Science | National Chiao Tung University | Hsinchu, Taiwan | 09/2009 - 06/2013

* National Chiao Tung University (NCTU) and National Yang-Ming University (NYMU) merged into National Yang Ming Chiao Tung University (NYCU) on Feb. 1, 2021.

WORK EXPERIENCE

4G/5G Software Engineer | MediaTek Inc. (Wireless Communication Technology Department) | Hsinchu, Taiwan | 12/2015 - 10/2021

- MediaTek is a global fabless firm, ranked the seventh largest semiconductor supplier and biggest smartphone chipset vendor in the world in 2021.
- Developed/maintained/optimised 4G/5G Layer-2 protocol software of system-on-a-chip (SoC), grasped 3gpp specifications, and fixed issues.
- Cooperated with foreign colleagues, jointly debugged with telecom operators and machine vendors, and also handled issues from the customer.
- Optimised uplink data scheduling (run in an embedded system) and decreased its hard-real-time (HRT) by 20% via increasing cache efficiency and empowering parallel processing.
- Designed and implemented a big-data analysis system, which can extract valuable information (shown on Splunk) from huge field-trial logs, such as network configuration patterns and user behaviour. Optimised some product features effectively with more confidence based on this system.
- Boosted maximum throughput of a single phone, and reached 5G theoretical values on Oct. 2021 for both mmWave and Sub-6 spectrums, which is the world first.
- Troubleshot performance issues by simultaneously considering telecom stack (LTE-A/NR) and datacom stack (TCP/IP).

Research Assistant (During study time) | National Health Research Institutes | Miaoli, Taiwan | 08/2013 - 12/2014

- Implemented a parallel program to process and transform huge genetic raw data on supercomputers for further analysis.

Research Assistant (During study time) | Academia Sinica | Taipei, Taiwan | 08/2012 - 12/2014

- Studied Wireless Sensor Network (WSN) and developed some innovative approaches conducted in the heuristic algorithm to solve sensor clustering and routing problems in WSN.
- Published the results in IEEE papers and presented them at the conferences.

SKILLS

C/C++, Python, Java, Verilog
React, CSS/HTML/JavaScript
Git, CI/CD, Splunk, Heuristic Algorithms, Embedded System, Operating System
4G/5G, TCP/IP, Radio Access Network (RAN), Software-Defined Network (SDN), Wireless Sensor Network (WSN)

PUBLICATION

1. Ming-Hung Wang, **Shao-You Wu**, Li-Hsing Yen and Chien-Chao Tseng, "PathMon: Path-specific traffic monitoring in OpenFlow-enabled networks," 2016 Eighth International Conference on Ubiquitous and Future Networks (ICUFN), 2016, pp. 775-780, doi: 10.1109/ICUFN.2016.7537143.
2. **S. Wu** and J. Liu, "Evolutionary path planning of a data mule in wireless sensor network by using shortcuts," 2014 IEEE Congress on Evolutionary Computation (CEC), 2014, pp. 2708-2715, doi: 10.1109/CEC.2014.6900511.
3. J. Liu, **S. Wu** and K. Chiu, "Path planning of a data mule in wireless sensor network using an improved implementation of clustering-based genetic algorithm," 2013 IEEE Symposium on Computational Intelligence in Control and Automation (CICA), 2013, pp. 30-37, doi: 10.1109/CICA.2013.6611660.

PROJECTS

Implemented an algorithm on General Game Playing (GGP) platform – JAVA
Implemented a heuristic algorithm with optimising strategies to solve routing/clustering problems in WSN – C++
Implemented a parallel program for huge genetic raw data processing – C++
Implemented a management system on SDN controller – JAVA
Implemented a big-data analysis system – Python

AWARDS

2013 NCTU Academic Excellence Award (top <5% of the class in semester)
2014 NCTU Academic Excellence Award (top <5% of the class in semester)
Five times MediaTek vAward (excellent performance)

LANGUAGES

Mandarin (native), English (upper-intermediate)

INTERESTS

Cooking, Tennis, Music