Wang Yuxuan

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Education

École polytechnique fédérale de Lausanne-EPFL Sep 2020 - Present

- *Master in Electronic Engineering; GPA: 5.43/6*
- *Selected courses* : Embedded system, Lab in large data science, Advanced computer architecture, Deep learning, Distributed algorithm

University of Electronic Science and Technology of China(UESTC) Sep 2016 - July 2020

- *Bachelor in Electronic Information Engineering ; GPA: 3.97/4(top 1%)*

Experience

Heterogeneous quantization for Analog In Memory Computing accelerators Lausanne
Research assistant in Embedded System Lab, EPFL and IBM, Zurich *Aug 2022 - Present*

- Investigate algorithms to transfer computation from CPU to analog tiles, and simulate the parallel computing within the heterogeneous system.
- Explore quantization on bits width to further speed up in-memory computation.

Multi-modal-multi-channel speech enhancement Lausanne
Media AI Intern in Logitech *Feb 2022 - Aug 2022*

- Implement two independent deep neural network that perform speech enhancement in frequency domain and time domains, and optimize connection between the two models.
- Utilize Direction-Of-Arrival from the speaker source location to merge with the baseline model, and investigate the benefits brought by multi-modality.

Wireless sensing for human detection Lausanne
Semester project in Tele-communication Lab, EPFL *July 2021 - Jan 2022*

- Collected wireless reflect information (amplitude and phase) with antenna pairs on embedded devices under various contact-free scenarios
- Achieve 95% accuracy on human detection based on the extraction of bio-medical information (e.g., reverberation and heartbeat) from the processed signal .

Characterizing cache miss/page-fault behavior for different benchmark Lausanne
Project in CS-471 Advanced multiprocessor architecture *July 2021 - Jan 2022*

- Explore a new memory architecture with an additional translation layer between the virtual and physical memory, and evaluate its performance (e.g., page faults, miss rate, etc) .
- Perform the evaluation characterization among up to six up-to-date distributed workloads while restricting the amount of physical memory.

Music Generation based on Mobility Feature Chengdu, China
Undergraduate researcher assistant *Sep 2017 - MAR 2018*

- Build multi-modality dataset that include mobile information as inputs and encoded music as output, and train DNN to allow mobile feature to control music generation.
- Implement client-server architecture to accelerate the inference process: the client extract the mobile information and pass it to server, and the server generate music based on the mobile feature.

Awards

Top 1%, Best graduate student (Highest honor among all graduated students in EE, UESTC)

Top 1%, China National Scholarship (Highest honor level scholarship by National Ministry of Education)

Top 1%, Sakura scholarship (Highest Exchange scholarship sponsored by Japan Ministry of Education)

Skills

Programming: C/C++, Python(Pytorch/Tensorflow), VHDL, MIPS, Matlab, Sql

Tools: Modelsim, Quatus, Cadence, Docker, Git, Linux, LATEX, Microsoft Office

Platforms: Linux, Windows, AWS

Language: English(Advanced); Mandarin(Native speaker); French(Primary)