

Wang Yuxuan

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🏛️ EDUCATION

- **École polytechnique fédérale de Lausanne-EPFL**
Master in Electronic Engineering; GPA: 5.43/6 Sep 2020 - Present
Selected courses with project links: [Embedded system](#), [Lab in large data science](#), [Advanced computer architecture](#), [Deep learning](#), [Distributed algorithm](#)
- **University of Electronic Science and Technology of China(UESTC)**
Bachelor in Electronic Information Engineering ; GPA: 3.97/4 Sep 2016 - July 2020

🏢 EXPERIENCE

- **Heterogeneous quantization for Analog In Memory Computing accelerators** Lausanne
Research assistant in Embedded System Lab, EPFL Aug 2022 - Present
Simulate computation within the heterogeneous deep learning neural network architecture using robust quantization strategy.
Explore quantization algorithms to speed up in-memory computation and reduce computation energy without sacrificing accuracy and maintaining robustness.
- **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, respectively.
Explore approaches to connect two models operating on different domains, such as data flows and training strategy.
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.
Design algorithm based on the physical property for data calibration to overcome the hardware imperfection.
Extract bio-medical information (e.g., reverberation and heartbeat) from the preprocessed signal and detect human existence.
- **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).
Bring up the workloads while restricting the amount of physical memory (e.g., using memory reservations in Docker), with a larger-than-memory dataset. Thus, the given memory will act as a cache for the overall dataset. Then perform the evaluation characterization.
- **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 graduated bachelors, masters, and PhDs in EE, UESTC)
- **Top 1%, China National Scholarship** (Highest honor level scholarship by National Ministry of Education)
- **Top 1%, Japanese Sakura scholarship** (Highed Exchange sholarship 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); Chinese(Native speaker); French(Primary)