Wenwen Zhang

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Education

BSc in Electronic Information Engineering ***08/2016-07/2020***
School of Electronic Information Engineering, Tianjin University (TJU), China
- GPA: 3.78/4.0 | GRE:326 (V:158/170 Q:168/170 AW:4) | TOEFL IBT:102

MASc in Electrical and Computer Engineering ***08/2020-CURRENT***
School of Electronic and Computer Engineering, The University of British Columbia, Canada

Research Publication

- **W. Zhang**, K. Ma, H. Zhang and H. Fu, "Design of a Compact SISL BPF With SEMCP for 5G Sub-6 GHz Bands," in *IEEE Microwave and Wireless Components Letters*, vol. 30, no. 12, pp. 1121-1124, Dec. 2020, doi: 10.1109/LMWC.2020.3030189.
- A. Tashakori, **W Zhang**, Z. Wang, and P Servati, "SemiPFL: Personalized Semi-Supervised Federated Learning Framework for Embedded Intelligence," submitted to *IEEE Internet of Things Journal.*

Projects

- ***Flexible Electronics and Energy Lab (FEEL)*** **Supervisor: Prof. Peyman Servati**
  Electronic and Computer Engineering Department, Research Assistant
  Personalized Semi-supervised Federated Learning for Embedded Intelligence *2021-CURRENT*
  - Federated learning method considering large proportion of no-label data with huge data heterogeneity at different device end.

  Wearable Sensor System for Gait Disorder Patients *2021-CURRENT*
  - Developing real-time algorithms to predict gait parameters of patients with disorders (Parkinson, stroke & geriatric).

  Attention-based Federated Learning *2021-CURRENT*
- ***Texavie Technologies, Inc.***
  R&D Intern, Hardware/Firmware and Data Processing
  Smart Knee Sleeves Based on Flexible Sensors *2021-CURRENT*
  - Lower extremity estimation & movement tracking & muscle condition monitoring by data from flexible sensors (stress, temperature, ect.) integrated on knee braces.

  Intelligent Glove with Embedded Wearable Sensors. *2021-CURRENT*
  - Hand gesture reconstruction of post-stroke patients to assess upper extremity function and help motivate recovery progress.
- ***Human Motion Biomechanics Lab (HuMBL)*** **Co-Supervisor: Prof. Calvin Kuo**
  Biomedical Engineering Department, Research Assistant
  Real-World Biomechanical Measurements of Impacts in Humans *2021-CURRENT*
  - Quantifying measurement errors in wearable inertial measurement unit devices caused by soft tissue movement artifacts.

  Auto-calibration of multi-sensors *01/2021-09/2021*
  - Automatic calibration of relative sensor location and orientation movement during slow motions.

- ***Microsystems and Nanotechnology (MiNa) Lab*** **Instructor: Prof. Lukas Chrostowski**
  Electronic and Computer Engineering Department
  Weight Bank Addition Photonic Accelerator in Neuromorphic Networks *04/2021-12/2021*
  - Designing and implementing cascaded micro-ring weight bank reporting the observations of weight addition and subtraction in neuromorphic networks based on silicon on insulators (SOI).

  Extended FSR Micro-Ring Modulator *09/2020-05/2021*
  - Designing parallel and cascaded ring resonators exhibiting Vernier effect and extended free spectral range (FSR).
- ***Interconnection Perception Microelectronics Laboratory, Tianjin University*** **Supervisor: Prof. Kaixue Ma**
  Electronic and Computer Engineering Department, Research Assistant
  Dual-band Microwave Filters for 5G *09/2018-04/2020*
  - Design a Self-Packaged dual bandpass filter with improved suppression for 5G sub-6 GHz applications based on the Substrate Integrated Suspended Line (SISL) technology.
- ***High Performance Computing Lab, Tianjin University***
  Department of Intelligent Computer Science, Research Assistant
  APAC HPC-AI Competition (Singapore) *09/2018-04/2020*
  - Refining performance of RDMA based on TensorFlow by python.
- ***Machine Learning and Biomedical Development Laboratory, Tianjin University***
  Intelligence and Computing Department, Research Student
  Feature Extraction of Brain Tumor and Classification *2017-2018*
- ***Electronic Information Engineering Department, Tianjin University***
  Undergraduate Student, Research Student
  Wireless Calculator for Communication Composed of Sampling, Coding, Modulation, Demodulation, Detection of Acoustic Signal *2018*

Awards and Honors

- UBC International Tuition Award *2020-2021*
- UBC Research Assistance Graduate Award *2020-2021*
- Two National Patents for Invention (Patent No. 201910862414.8 & 201910528184.1) *2018-2019*
- First Prize in Tianjin District in China Undergraduate Mathematical Contest in Modeling (5%). *2018*
- Career Certification of HCNA Huawei
- Third National College Students Integrated Circuit Innovation and Entrepreneurship Competition (North China Division), First Prize (Top 1 of 140) *2019*
- Third National College Students Integrated Circuit Innovation and Entrepreneurship Competition (National Finals), Second Prize *2019*
- "Mathematical Contest in Modeling Certificate of Achievement (MCM)", Honorable Mention (Second award) *2017*
- Best Student Awards in Tianjin University *2017-2018*

Workshop & Seminar

- 2021 SIEPIC Active Silicon Photonics
- The SmarT Innovations for Technology Connected Health (STITCH)
- QSciTech-QuantumBC Virtual Workshop: Gate-based Quantum Computing Using IBM-Q
- 2020 SIEPIC Passive Silicon Photonics
- 2019/2020 International Workshop on Microwave and Microsystems

Community Service

- Optica student member *2021-CURRENT*
- IEEE student member *2019-CURRENT*
- IEEE WIE member (Region 10#) *2019-CURRENT*
- IEEE MWCL, TCAS-II, Journal of IoT (reviewer)

Skills

- Python, MATLAB, C, C++, HFSS, Lumerical, Ansys.