Wenwen Zhang

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Education

MASc in Electronic Engineering and Computer Science *08/2020-CURRENT*
University of British Columbia (UBC), Canada
Visiting Graduate Researcher (Friedman Scholar) at EECS *09/2022-CURRENT*
University of California, Berkeley(UCB)
BSc in Electronic Engineering *08/2016-07/2020*
Tianjin University (TJU), China

- ***GPA: 3.78/4.0 | GRE:326 (V:158/170 Q:168/170 AW:4) | TOEFL IBT:102***

Publications and Patents

- **W Zhang***, Arvin Tashakori, Zenan Jiang, Amir Servati, Calvin Kuo, and Peyman Servati, A Flexible Sensor System for Lower Body Locomotion Estimation. *IEEE Transactions on Biomedical Engineering (in reviewing).*
- **W Zhang***, C Kuo and P Servati, A Wearable Sensor System for Measuring Pathological Gait Parameters. *IEEE Transactions on Biomedical Engineering (in reviewing)*
- **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," *IEEE Internet of Things Journal* (under review). arXiv:2203.08176.
- Zhang H, Ma K, **Zhang W**, et al. A Nover Self-packaged DBBPF with multiple TZs for 5G sub-6GHz applications. *Microw Opt Technol Lett*. 2022, 0895-2477, doi: 10.1002/mop.33455.
- Ma K, Zhang H, Fu H, **Zhang W**. 5G dual passband filter based on dielectric integrated suspension line. CN 201910528184.
- Ma K, **Zhang W**, Fu H, Zhang H. Band-pass filter based on 5G double-frequency dielectric integrated suspension lines. CN 201910862414.

Conferences and Presentations

- **W Zhang***, Arvin Tashakori, Zenan Jiang, Amir Servati, Calvin Kuo, and Peyman Servati, A Flexible Sensor System for Lower Body Locomotion Estimation. *Poster - 2022 Biomedical Engineering Society Annual Meeting.* (Link).
- **W Zhang***, C Kuo and P Servati, A Wearable Sensor System for Measuring Pathological Gait Parameters. *Poster - 2022 Biomedical Engineering Society Annual Meeting*. (Link).

Awards and Honors

- UBC Friedman Award for Scholars in Health (My page) *2022*
- UBC International Tuition Award *2020-2021*
- UBC Research Assistance Graduate Award *2020-2021*
- China College Students Integrated Circuit Competition (the north region), (Top 1 of 140) *2019*
- China College Students Integrated Circuit Competition (Final), Second Prize (1%) *2019*
- USRP Excellent Project Award of Province (Top 1% in Engineering department) *2018*
- First Prize in China Mathematical Contest in Modeling (5% - Tianjin area). *2018*
- “Merit Student” Scholarship of Tianjin University *2017-2018*
- Career Certification of HCNA Huawei *2018*

- "Mathematical Contest in Modeling Certificate of Achievement (MCM)", Honorable Mention *2017*

Projects

- ***Ti Lab*** **Supervisor: Prof. Grigory Tikhomirov**

  Electronic Engineering and Computer Science Department, Graduate Scholar

  Optics-free DNA Microscopy Imaging by Machine Learning *09/2022-04/2023*

  - Post processing cell chemical reaction bio-information and locate molecule relative position through spectral maximum likelihood estimation via using machine learning. (Python)

- ***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 *09/2021-01/2022*

  - 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 *01/2022-09/2022*

  - Developing real-time algorithms to predict gait parameters of patients with disorders (Parkinson, stroke & geriatric).

- ***Texavie Technologies, Inc.***

R&D Intern, Hardware/Firmware and Data Processing *12/2021-06/2022*

Smart Knee Sleeves Based on Flexible Sensors *12/2021-06/2022*

- 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. *12/2021-03/2022*

- 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 *12/2021-01/2022*

  - Quantifying measurement errors in wearable inertial measurement unit devices caused by soft tissue movement artifacts.

  Auto-calibration of Multi-sensors *01/2021-06/2021*

  - 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). – Course project

  Extended FSR Micro-Ring Modulator – Course project *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 Sub-6GHz Base-station *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 technology.

- ***High Performance Computing Lab, Tianjin University***

  Department of Intelligent Computer Science, Research Assistant

APAC HPC-AI Competition (Singapore) *08/2018-09/2018*

- 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 *2017*

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 (volunteer as a reviewer)

Skills

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