Wenwen Zhang

Mobile: 628-231-4922 E-mail: wenwenzhang@ece.ubc.ca | Website | Linkedin

Education

MASc in Electronic Engineering and Computer Science ***08/2020-04/2023***
The University of British Columbia (UBC), Canada
Visiting Graduate Researcher (Friedman Scholar) in EECS ***09/2022-03/2023***
The University of California, Berkeley (UCB), US
BS.c in Electronic Engineering ***08/2016-07/2020***
Tianjin University (TJU), China

- ***GPA: 3.88/4.0 | GRE:326 (V:158/170 Q:168/170 AW:4)***

Publications and Patents

- **W. Zhang**, A Tashakori, Z Jiang, A Servati and P Servati. Endorse Vision to Textile: 3D Human Pose Generation from Tactile Knee Sleeves. *(In progress for **CVPR**).*
- A. Tashakori, **W. Zhang**, Z. Wang, Z. Jiang, A Servati and P. Servati. Stretchable Smart Textile Gloves for Dynamic Tracking of Articulated Hands. *(Reviewing by **Nature Electronics**)*
- J Wang*, **W. Zhang***, C Silva, and L Sigal. Make Unsupervised Clustering Discriminative and Informative for Source-Free Domain Adaptation: A Feature Graph Guided Contrastive Learning Method *(In progress for **2023 Conference on Neural Information Processing Systems**)*.
- **W. Zhang**, C Kuo and P Servati, L4P: A Method for Learning Pathological Gait Parameters from wearable sensors for Parkinson's patients. ***IEEE Transactions on Biomedical Engineering*** *(in reviewing)*
- A. Tashakori*, **W. Zhang***, Z. Wang, and P. Servati, SemiPFL: Personalized Semi-Supervised Federated Learning Framework for Embedded Intelligence, ***IEEE Internet of Things Journal***. doi: 10.1109/JIOT.2022.3233599.
- **W. Zhang**, K. Ma*, H. Zhang and H. Fu, Design of a Compact SISL BPF With SEMCP for 5G Sub-6 GHz Bands, ***IEEE Microwave and Wireless Components Letters***, vol. 30, no. 12, pp. 1121-1124, Dec. 2020, doi: 10.1109/LMWC.2020.3030189. (Undergrad publication)
- H Zhang, K Ma*, **W. Zhang**, et al. A Novel Self-packaged DBBPF with multiple TZs for 5G sub-6GHz applications. ***Microw Opt Technol Lett***. 2022, 0895-2477, doi: 10.1002/mop.33455. (Undergrad publication)

(*: equal contributions)

Conferences and Presentations

- **W. Zhang***, A. Tashakori, Z. Jiang, A. Servati, C. Kuo, and P. 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 (First female awardee in ECE: My page) *$38000* *2022*
- UBC Faculty of Applied Science Graduate Award $9000/year *2022*
- UBC International Tuition Award $9000/year *2020-2022*
- UBC Research Assistance Graduate Award $24000/year *2020-2022*
- Hong Kong Ph.D. Fellowship Scheme (HKPFS - CUHK) (declined) $ 41690/Stipend *2019*
- 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) ￥8000 *2018*
- First Prize in China Mathematical Contest in Modeling (5% - Tianjin area). *2018*
- "Merit Student" Scholarship of Tianjin University (￥3000 * 4 years) *2017-2018*
- Career Certification of HCNA Huawei *2018*
- "Mathematical Contest in Modeling Certificate of Achievement (MCM)", Honorable Mention *2017*

Research Experiences

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

  Electronic Engineering and Computer Science Department, Graduate Scholar (funded by Canada health care)

  Optics-free DNA Microscopy Imaging by Machine Learning *09/2022-03/2023*
  - Post-processing cell chemical reaction bio-information and locating molecule relative position through spectral maximum likelihood estimation via using machine learning. (Python)

- ***Flexible Electronics and Energy Lab (FEEL)*** **Supervisor: Prof. Peyman Servati**

  Vancouver Coastal Health (VCH) Hospital **Co-Supervisor: Dr. Calvin Kuo**

  Electronic and Computer Engineering Department, Research Assistant

  Personalized Semi-supervised Federated Learning for Embedded Intelligence *09/2021-01/2022*
  - The Federated learning method considers a large proportion of no-label data with huge data heterogeneity at the different device ends.

  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, etc.) integrated into knee braces. (prepare for CVPR)

  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. (submitted to Nature Electronics)

- ***Human Motion Biomechanics Lab (HuMBL)*** **Co-Supervisor: Dr. Calvin Kuo**

  Biomedical Engineering Department, Research Assistant

  Real-World Biomechanical Measurements of Impacts on 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.

- ***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*** **Supervisor: Prof. Shanjiang Tang**

  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*** **Supervisor: Prof. Ran Su**
  Intelligence and Computing Department, Research Student
  Feature Extraction of Brain Tumor and Classification *2017-2018*
  - Developed an algorithm to detect brain tumors with Python and PyTorch.
- ***Electronic Information Engineering Department, Tianjin University*** **Supervisor: Prof. Jingyu Yang**
  Undergraduate Student, Research Student
  Wireless Calculator for Communication Composed of Sampling, Coding, Modulation, Demodulation, Detection of Acoustic Signal *2017*

Workshop & Seminar

- 2022 Stanford AI + Health online conference
- 2022 NeurIPS and Machine Learning for Health (ML4H)
- 2022 Biomedical Engineering Society Annual Meeting
- The SmarT Innovations for Technology Connected Health (STITCH)

Community Service

- ACM/BMES/IEEE/ student member
- IEEE Women in Engineering member *2019-CURRENT*
- IEEE MWCL, TCAS-II, MOTL, Journal of IoT (volunteer as a reviewer)