Elliott Wen

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Education

The University of Auckland, New Zealand
Ph.D - Computer Science — July 2017 - May 2021

Victoria University of Wellington, New Zealand
M.Eng - Computer Science — May 2016 - March 2017

Hong Kong Polytechnic University, Hong Kong
M.Phil - Computer Science — Nov 2013 - May 2016

Sun Yat-sen University, China
B.Eng - Electrical Engineering — July 2009 - July 2013

Awards

Dean of Graduate Studies List
In recognition of excellence achieved with my PhD thesis — May 2021

University of Auckland Doctoral Scholarship
Awarded to high-achieving doctoral candidates — July 2017 - July 2020

Victoria University of Wellington Postgradaute Scholarship
Full-scholarship awarded for master in engineering — May 2016 - March 2017

The Hong Kong Polytechnic University M.Phil Scholarship
Full-scholarship awarded for master in computer science — Nov 2013 - May 2016

Best student paper award
In proceedings of the ACM Symposium on Document Engineering — Nov 2018

Research Experience

Research Fellow — May 2021 – Present
The University of Auckland, New Zealand
- Produced 27 publications and 7 of these are in first-tier conferences (Core rank A or above). My current H-index is 10 with 642 citations (Google Scholar)
- Successfully obtained grant funding from Facebook and HRC New Zealand.
- Management of the research lab including students and research resources.

Research Assistant — August 2022 – Present
Victoria University of Wellington, New Zealand
- Conduct research on WebAssembly static analysis under the supervison of A/Prof Jens Dietrich.

Lead Investigator of FaceBook Virtual Reality Sickness Project — May 2021 - Present
Meta Platforms (Facebook), INC. United State
- Received 300000 USD research funding.
- Implemented machine-learning pipelines to detect VR motion sickness risk factors and estimate a comfort rating given a gameplay video.
- We are expecting to receive another round of funding (100000 USD) in May 2023

Co-Investigator of HRC New Zealand Activation Grant — April 2021 - Present
- Obtained 30000 NZD research funding.
- Built a portable low-cost foot thermal imaging device for diabetic patients in New Zealand.

Teaching Experience

PhD Co-Supervisor — May 2021 – Present
- Tharindu Kaluarachchi (Completed): 'Investigating the Human-Centered Machine Learning Approach with Non-AI-Experts'
- Shamane Siriwardhana: 'Application of Self Supervised Learning in Human Language Understanding: Moving Beyond Labelled Data'
- Vipula Dissanayake: 'Towards Robust Wearable Emotion Recognition with Contrastive Representation Learning'

Graduate Teaching Assistant — Feb 2019 – June 2019
The University of Auckland, New Zealand
- Prepared lecture notes and taught the COMPSCI 345 Human Computer Interaction and COMPSCI 351 Database System courses.
- Led class discussions and answered student questions.
- Evaluated student projects, labs and other assessments.

Selected Publications (Complete List in Google Scholar)

1. E. Wen, J. Wang, and J. Dietrich. SecretHunter: A Large-Scale Secret Scanner for Public Git Repositories. The 21st IEEE International Conference on Trust, Security and Privacy in Computing and Communication.

2. E. Wen, Nanayakkara, S., Yao, R., and Lim, J. VRhook: A Data Collection Tool for VR Motion Sickness Research. The ACM Symposium on User Interface Software and Technology. (**In collaboration with Facebook, Core Rank: A***)

3. V. Dissanayake, V. Tang, E. Wen, *et al.*, "Troi: Towards understanding users perspectives to mobile automatic emotion recognition system in their natural setting," *Proceedings of the ACM on Human-Computer Interaction*, vol. 6, no. MHCI, pp. 1–22, 2022

4. E. Wen, J. Shen, and S. Nanayakkara, "Dspbooster: Offloading unmodified mobile applications to dsps for power-performance optimal execution," *IEEE Computers, Software, and Applications Conference*, 2022 (**Acceptance Rate: 22%**)

5. E. Wen, G. Weber, and S. Nanayakkara, "Wasmandroid: A cross-platform runtime for native programming languages on android," in *Transactions on Embedded Computing Systems*, 2022

6. E. Wen, G. Weber, and S. Nanayakkara, "Wasmandroid: A cross-platform runtime for native programming languages on android," in *Proceedings of the 22nd ACM SIGPLAN/SIGBED International Conference on Languages, Compilers, and Tools for Embedded Systems*, 2021, pp. 80–84

7. E. Wen, J. Warren, and G. Weber, "Browservm: Running unmodified operating systems and applications in browsers," in *2020 IEEE International Conference on Web Services (ICWS)*, IEEE, 2020, pp. 473–480 (**Core Rank: A**)

8. E. Wen and G. Weber, "Wasmachine: Bring the edge up to speed with a webassembly os," in *2020 IEEE 13th International Conference on Cloud Computing (CLOUD)*, IEEE, 2020, pp. 353–360 (**Acceptance Rate: 20%**)

9. E. Wen and G. Weber, "Swiftlatex: Exploring web-based true wysiwyg editing for digital publishing," in *Proceedings of the ACM Symposium on Document Engineering 2018*, 2018, pp. 1–10 (**Best Student Paper Award**)

10. E. Wen, W. K. Seah, B. Ng, *et al.*, "Gbooster: Towards acceleration of gpu-intensive mobile applications," in *2017 IEEE 37th International Conference on Distributed Computing Systems (ICDCS)*, IEEE, 2017, pp. 1408–1418 (**Core Rank: A**)

11. E. Wen, W. Seah, B. Ng, *et al.*, "Ubitouch: Ubiquitous smartphone touchpads using built-in proximity and ambient light sensors," in *Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing*, 2016, pp. 286–297 (**Core Rank: A***)

12. E. Wen, J. Cao, and X. Liu, "We help you watch your steps: Unobtrusive alertness system for pedestrian mobile phone users," in *2015 IEEE International Conference on Pervasive Computing and Communications (PerCom)*, IEEE, 2015, pp. 105–113 (**Core Rank: A***)

13. X. Liu, E. Wen, S. Tang, *et al.*, "City-hunter: Hunting smartphones in urban areas," in *2017 IEEE 37th International Conference on Distributed Computing Systems (ICDCS)*, IEEE, 2017, pp. 162–171 (**Core Rank: A**)

Service & Leadership

Journal Reviewer

- ACM Transactions on Intelligent Systems and Technology (TIST)
- IEEE Transaction on Mobile Computing (TMC)
- ACM Computing Surveys (CSUR)

Founder of the SwiftLaTeX project (1.9K stars)

- A spin-off project of my PhD research.
- Running LaTeX engines in browsers with optional WYSIWYG support.