Shariff Faleel

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|Research Interests:

Primary research interest is in augmenting human cognition. I am particularly interested in using state-of-the-art artificial intelligence technologies with ubiquitous computing to expand the human day-to-day experience.

|Education:

| **2019 - 2023** **University of Britsh Columbia - Okanagan**
PhD (Computer Science)

Supervisor: Dr. Pourang Irani
GPA: 4.25/4.5

| **2013 - 2017** **University of Peradeniya**
BSc (Computer Science)

Major: Computer Science
Minor: Statistics & Mathematics
GPA: 3.50/4.0 (87%) *(Second Class Honours - Upper Division)*

|Work & Research Experience:

| **March 2021 - April 2022** **Associate Researcher, Intern**
Huawei Technologies Canada

- Was part of the Human Machine Interactions lab. Worked on a range of HCI projects.
- Developed research ideas, executed relevant user studies and built demo applications.

| **Augest 2019 - Present** **PhD Student**
University of Manitoba

- Under the supervision of Dr Pourang Irani
- Exploring AR/VR input and output capabilities.
- Developed Hand Proximate UI as a novel interaction modality for AR/VR.
  - Technologies Explored: Deep learning models (CV), Gesture based interactions (Leap Motion, Vicon motion tracking, CV), VR/AR (Oculus, Epson & Hololens using Unity, Android & Python)

| **July 2017 - Augest 2019** **Research Assistant**
University of Peradeniya

- Under the supervision of Dr R.D. Nawarathna.
- Conducted research on deep learning based computer vision applications as part of an industry collaboration with codegen international.

- Developed a prototype system for a cashier assistant:
  - Tools/framworks used: NVIDIA Jetson, Raspberry Pi, Python, pytorch, django, AWS Lambda, AWS Beanstalk, MongoDB.
  - Framework developed for automated ML experimenting, training and deployment.

| **March 2017 - June 2017** **Temporary Demonstrator**
University of Peradeniya

- Conducted practical sessions (Programming concepts, Data structures and algorithms, Computer architecture/assembly) for undergraduate students.
- Technical committee member of the Postgraduate Institute of Science Research Congress, 2017.
- Conducted research on Dialogue Management systems.

| **Augest 2016 - January 2016** **Software Engineering Intern**
IFS R&D International

- Developed dependency visualization of system modules. Using Common Lisp, Python, and Javascript.

|Additional Information:

Leadership Skills: At St. Anthony's College I played hockey for the U-13, U-15, U-17 and U-19 teams. Held positions as the president of the Islamic Students Movement, chief editor of the Tamil Cultural Society, and also was part of the Interact Club, Global Linking Programme, and Sri Lanka Unites Programme. I also was part of the debate team at the University of Peradeniya and the drama team that took part in the drama competitions within the University.

Languages: English, Tamil (first language), Sinhala

Technical skills: Python (pytorch, flask, django, etc.), C# (Unity), Javascript, Lisp, Java, C++, C, PHP, Matlab, Emacs, etc.

Machine learning and deep learning (have exprience with pytorch and tensorflow).

Worked in computer vision, Natural language processing, dialogue systems, development for AR/VR.

Strong communication, collaboration and leadership skills.

Well able to work independently and take initiative when necessary.

Team player and good interpersonal skills.

|Publications:

Shariff AM Faleel, Yishuo Liu, Roya A Cody, Bradley Rey, Linghao Du, Jiangyue Yu, Da-Yuan Huang, Pourang Irani, Wei Li. (2022) "T-Force: Exploring the Use of Typing Force for Three State Virtual Keyboards". (In submission at CHI 2023)

Ali Neshati, Aaron Salo, **Shariff AM Faleel**, Ziming Li, Hai-Ning Liang, Celine Latulipe, and Pourang Irani. 2022. "EdgeSelect: Smartwatch Data Interaction with Minimal Screen Occlusion." In Proceedings of the 2022 International Conference on Multimodal Interaction (ICMI '22). Association for Computing Machinery, New York, NY, USA, 288–298. https://doi.org/10.1145/3536221.3556586

Fouad Alallah, **Shariff Faleel**, Yumiko Sakamoto, Bradley Rey, and Pourang Irani (2022). "SSCA: situated space-time cube analytics." In M. Agus, W. Aigner, and T. Hoellt, EuroVis 2022 - Short Papers (pp.). : The Eurographics Association.

Shariff AM Faleel, Michael Gammon, Kevin Fan, Da-Yuan Huang, Wei Li and Pourang Irani, "HPUI: Hand Proximate User Interfaces for One-Handed Interactions on Head Mounted Displays," in IEEE Transactions on Visualization and Computer Graphics, vol. 27, no. 11, pp. 4215-4225, Nov. 2021, doi: 10.1109/TVCG.2021.3106493.

Shariff AM Faleel, Bibhushan Raj Joshi and Bradley Rey, "Writely: Force Feedback for Non-Dominant Hand Writing Training," 2021 IEEE World Haptics Conference (WHC), 2021, pp. 340-340, doi: 10.1109/WHC49131.2021.9517209.

Ali Neshati, Bradley Rey, **Ahmed Shariff Mohommed Faleel**, Sandra Bardot, Celine Latulipe, and Pourang Irani. 2021. "BezelGlide: Interacting with Graphs on Smartwatches with Minimal Screen Occlusion". In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21). Association for Computing Machinery, New York, NY, USA, Article 501, 1–13. https://doi.org/10.1145/3411764.3445201

Shariff A. M. Faleel, Michael Gammon, Yumiko Sakamoto, Carlo Menon, and Pourang Irani. 2020. "User gesture elicitation of common smartphone tasks for hand proximate user interfaces". In *Proceedings of the 11th Augmented Human International Conference (AH '20)*. Association for Computing Machinery, New York, NY, USA, Article 6, 1–8. DOI:https://doi.org/10.1145/3396339.3396363

Yurii Vasylkiv, Ali Neshati, **Shariff A. M. Faleel**, Yumiko Sakamoto, and Pourang Irani. 2020. "Using guessability framework: age-related differences in hand gesture interaction". In *Proceedings of the 11th Augmented Human International Conference (AH '20)*. ACM, New York, NY, USA, Article 24, 1–2. DOI:https://doi.org/10.1145/3396339.3396394

Ahmed Shariff, M.F., Nawarathna, R.D. (2019). "A Novel Dialogue Manager Model for Spoken Dialogue Systems Based on User Input Learning." In: Hemanth, J., Silva, T., Karunananda, A. (eds) Artificial Intelligence. SLAAI-ICAI 2018. Communications in Computer and Information Science, vol 890. Springer, Singapore. https://doi.org/10.1007/978-981-13-9129-3_14

M.F.A. Shariff. and R.D. Nawarathna, "A Dialogue Management Model with User Input Learning." Proceedings of the Postgraduate Institute of Science Research Congress 2017. (Abstract)