Matthew Chun Curriculum Vitae

mchun345@gmail.com | 604.802.4895 | mchun345.github.io

Profile

I'm a person interested in "people things". That is, how do people perceive, use, and feel about the various mediums they interact with in their world? This curiosity led me to pursue an academic interest in Human Computer Interaction (HCI) in order to equip myself with the hard and soft skills needed to get at this question.

Education

University of British Columbia (UBC)
MSc, Computer Science, Human Computer Interaction (HCI) [Graduated 2020]
BA, Computer Science, Cognitive Systems (Cognition and the Brain) [Graduated 2016]
Sensory Perception and Interaction Lab (SPIN)
Designing For People Research Cluster (DFP)

Work

Virtual Reality Interface Researcher/Developer [Quantitative Analysis, Unity]
Nippon Telegraph and Telephone R&D Laboratories (2014 to 2015), Yokosuka, Japan

- Researched time perception of simulated network delays in virtual reality panoramic video environments using Unity and the Oculus Rift.
- Findings were presented at a domestic Japanese conference called IEICE (The Institute of Electronics, Information, and Communication Engineers). Indexed at https://www.ieice.org/ken/index/ieice-techrep-114-517-e.html

Web Developer [MySQL, PHP, Unix]
Telus (2013), Burnaby, Canada

- Developed backend management application in PHP and MySQL to automate troubleshooting of networking issues.
- Developed Unix scripts to improve server maintenance tasks eg. Collecting server statuses.

Designing For People Media Production [Adobe Lightroom, Adobe Photoshop, Adobe Premiere]
UBC Computer Science (2017 to 2019), Vancouver, Canada

- Captured and processed media (photos, event videos) for UBC Interdisciplinary Graduate Design program called DFP (Designing For People).
- Examples of media can be seen at dfp.ubc.ca

Research

Haptic Experience Design Support [Design Thinking, R, Research Methods, Qualitative Analysis]
UBC Computer Science, Master's Thesis, SPIN (2017 to 2020), Vancouver, Canada

- Investigated and systematically assessed design methodologies in the field of haptics (touch related technologies) in order to discover interdisciplinary methodological benefits.

Haptic Education Requirements Gathering [Design Thinking, Qualitative Analysis]
UBC Computer Science, SPIN Lab (2018), Vancouver, Canada

- Worked together with two secondary school students to identify possible avenues for haptic (touch related technologies) education.

- Critically analyzed existing STEM education tools and brainstormed possible designs to incorporate haptic technology.
- Students practiced HCI research methodologies such as user interviews, cognitive walkthroughs, focus group interviews, conceptual design, qualitative analysis, etc.

Haptic "Instagram" [CSS, HTML]
UBC Computer Science, SPIN Lab (2016), Vancouver, Canada

- Researched, developed and tested the emotional and pragmatic information qualities of vibrations for a speculative design of a user customizable vibration tuning interface for devices such as phones and smartwatches.

Haptic Web Prototyping Tool [CSS, HTML, JavaScript, React]
UBC Computer Science, SPIN Lab (2016), Vancouver, Canada

- Assisted PhD student in developing quality of life features (eg. Save/load) for a haptic (touch related technologies) designer support tool called Macaron (https://www.cs.ubc.ca/labs/spin/macaron).

Mobile Haptic Vibration Design [JavaScript]
UBC Computer Science, SPIN Lab (2015), Vancouver, Canada

- Designed mobile haptic vibrations to validate viability of cheaper haptic devices in efficacy for information conveyance (eg. fitness, presentation time tracking, etc) for crowdsourced evaluations using Mechanical Turk.
- Publication accepted at CHI 2016, a top tier human computer interaction conference. Indexed at https://doi.org/10.1145/2858036.2858279

Academic

Personalization Human Computer Interaction [Design Thinking, Qualitative Analysis]
UBC Computer Science, CPSC 554M Graduate Course (2017), Vancouver, Canada

- In a team project, researched current experiences of everyday users in file management practices with cloud services such as Google Drive and Dropbox.
- Based on findings, created concepts for speculative redesign of such services.

Information Visualization (CPSC 547) [CSS, HTML, R]
UBC Computer Science, CPSC 547 Graduate Course (2017), Vancouver, Canada

- In a team, helped design and develop a visualization tool for making informed dining decisions based on useful comparisons using the Yelp dataset.

Advanced Method for Human Computer Interaction (CPSC 444) [Design Thinking, Quantitative Analysis]
UBC Computer Science, CPSC 444 Graduate Course (2014), Vancouver, Canada

- In a team, researched and developed a system for unobtrusively taking notes of important life moments.

Publications

CHI 2016 (Conference on Human Factors in Computing Systems) [Top Tier HCI Conference]
Schneider, O. S., Seifi, H., Kashani, S., Chun, M., & MacLean, K. E. (2016, May). HapTurk: crowdsourcing affective ratings of vibrotactile icons. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (pp. 3248-3260). ACM.

IEEE Transactions on Haptics 2020 [Top Tier Haptic Technology Research Journal]
Seifi, H., Chun, M., Gallacher, C., Schneider, O.S., MacLean, K.E. "How Do Novice Hapticians Design? A Case Study in Creating Haptic Learning Environments" in IEEE Transactions on Haptics, 2020, pp. 1-15.

ACM Transactions on Applied Perception 2019 [Interdisciplinary Comp. Sci. Perception Journal]
Seifi, H., Chun, M., & MacLean, K. E.. "Towards Affective Handles for Tuning Vibrations." ACM Transactions on Applied Perception, 15(3 (Article 22), 2019. pgs. 1-12.

Eurohaptics 2016 [Conference on Haptics and Touch Enabled Computer Applications]
Bucci, P., Cang, X. L., Chun, M., Marino, D., Schneider, O., Seifi, H., & MacLean, K. (2016). CuddleBits: an iterative prototyping platform for complex haptic display. *Eurohaptics Demonstration*.

Teaching

CPSC 344 (Intro to Human Computer Interaction) Teaching Assistant [Design Thinking]
UBC Computer Science (2015 to 2017), Vancouver, Canada

- Taught students the fundamentals of HCI relevant concepts/techniques such as requirements gathering, interview techniques, prototyping sketching/storyboarding, cognitive walkthroughs, heuristic evaluations, etc.
- Provided feedback and guidance on student HCI projects, involving the redesign or new design of experiences such as online shopping, community volunteering, musician band formation and more.

High School Student Computer Science Camp Instructor [Java]
UBC Computer Science (2012), Vancouver, Canada

- Taught high school students concepts of video game development and robotics.
- Engaged students through team building activities and games.

Grants

UBC Computer Science Merit Scholarship

- Competitive award ($5000 CAD) to attract and give strong applicants additional funding.

Coding Challenges

World Haptics 2017 Student Innovation Challenge [Arduino, Processing]
Munich, Germany

- For a haptics (touch related technologies) conference, designed and developed a haptic education application designed to physicalize abstract electricity concepts.

Haptics Symposium 2016 Student Innovation Challenge [Python]
Philadelphia, USA

- For a haptics (touch related technologies) conference, designed an affective vibration calming system for speculative automated car driving for situations where drivers must suddenly resume control of their vehicle.

iamagamer Video Game Hackathon [Unity]
Vancouver, Canada (2013)

- In a team, participated in a hackathon to create a video game combating female stereotypes. Role was to provide level design.

Community	**Vancouver UX Research Group Volunteer (VanUXR)** Vancouver, Canada (2019 to Present)

- Helps with check-in, and photography for local user experience research professionals and enthusiasts learning and connecting with each other.
- Examples of events and content can be seen on the VanUXR Meetup page (https://www.meetup.com/The-Vancouver-UX-Research-Lab/)

Computer Science Graduate Student Social Czar
UBC Computer Science (2016 to 2018), Vancouver, Canada

- Hosted and organized several graduate student social events ranging from dinners, karaoke, to hiking trips.

Canada Learning Code Volunteer [CSS, HTML, JavaScript, PHP]
UBC Computer Science (2018), Vancouver, Canada

- Helped coach first time coders in developing a Chrome web extension.

Haptics Symposium 2016 Student Volunteer
Philadelphia, USA (2016)

- For a haptics (touch related technologies) conference, assisted in logistical duties such as sign-in coordination, providing directions and instructions to event attendees.

Microsoft Student Partner
Microsoft (2013 to 2014), Vancouver, Canada

- Organized local school events that promoted the usage of Microsoft Developer tools such as Visual Studio.

UBC Wine Tasting Club VP Internal
University of British Columbia (2010 to 2014), Vancouver, Canada

- Arranged liquor licensing, collaborated with other UBC clubs, and acted as secretary for answering emails, and sending event details.

Technical Skills

Programming
C++, C#, CSS, HTML, Java, JavaScript, MySQL, PHP, Python, R

Software
Adobe Lightroom, Adobe Photoshop, Adobe Premiere, Arduino, MATLAB, OpenCV, React, Unity, Unix

Research Skills

Quantitative Analysis (eg. ANOVA, Linear Regression, etc.)
Qualitative Analysis (eg. Thematic Analysis, User Interviews, etc.)
Research Methods (Literature Research, Research Question Formulation, Writing, etc.)
Design Thinking (eg. Rapid Prototyping, User Requirements, Conceptual Sketching, etc.)