

Romain Nith

Ph.D. Student in Computer Science, University of Chicago
romainnith@gmail.com – www.romainnith.com

Research interests

Human-computer interaction (HCI), haptics, force feedback, body-scale haptics, wearables, virtual/augmented reality (VR/AR)

Education

University of Chicago , Chicago, U.S. Ph.D., Computer Science Advisor: Prof. Pedro Lopes	2023 – Current
University of Chicago , Chicago, U.S. M.S., Computer Science Advisor: Prof. Pedro Lopes	2020 – 2023
McGill University , Montreal, Canada B.Eng., Computer Engineering	2013 – 2019

Publications

SplitBody: Reducing Mental Workload while Multitasking via Muscle Stimulation.

Romain Nith, Yun Ho Pedro Lopes
ACM CHI 2024 Paper – **Best Paper Award** (top 1%)

ecoEDA: Recycling E-waste During Electronics Design

Jasmine Lu, Beza Desta, K.D. Wu, **Romain Nith**, Joyce Passananti and Pedro Lopes
ACM UIST 2023 Paper – **Best Paper Honorable Mention Award**

JumpMod: Haptic Backpack that Modifies Users' Perceived Jump

Romain Nith, Jacob Serfaty, Samuel Shatzkin, Alan Shen and Pedro Lopes
ACM CHI 2023 Paper

DigituSync: A Dual-User Passive Exoskeleton Glove That Adaptively Shares Hand Gestures

Jun Nishida, Yudai Tanaka, **Romain Nith**, Pedro Lopes
ACM UIST 2022 Paper

DextrEMS: Increasing Dexterity in Electrical Muscle Stimulation by Combining it with Brakes

Romain Nith, Shan-Yuan Teng, Pengyu Li, Yujie Tao, Pedro Lopes
ACM UIST 2021 Paper – **Best Demo Award (people's choice)**
Guinness World Record for *Most Precise Bionic Hand Controller* in 2021

Touch&Fold: A Foldable Haptic Actuator for Rendering Touch in Mixed Reality

Shan-Yuan Teng, Pengyu Li, **Romain Nith**, Joshua Fonseca, Pedro Lopes
ACM CHI 2021 Paper – **Best Paper Honorable Mention Award** (top 5%)

MagnetIO: Passive yet Interactive Soft Haptic Patches Anywhere

Alex Mazursky, Shan-Yuan Teng, **Romain Nith**, Pedro Lopes
ACM CHI 2021 Paper

Stereo-Smell via Electrical Trigeminal Stimulation

Jas Brooks, Shan-Yuan Teng, Jingxuan Wen, **Romain Nith**, Jun Nishida, Pedro Lopes
ACM CHI 2021 Paper

A stretchable and strain-unperturbed pressure sensor for motion interference-free tactile monitoring on skins
Qi Su, Qiang Zou, Yang Li, Yuzhen Chen, Shan-Yuan Teng, Jane T Kelleher, **Romain Nith**, Ping Cheng, Nan Li,
Wei Liu, Shilei Dai, Youdi Liu, Alex Mazursky, Jie Xu, Lihua Jin, Pedro Lopes, Sihong Wang
Science Advances 2021

Demonstrations and extended abstracts

SplitBody: Reducing Mental Workload while Multitasking via Muscle Stimulation.

Romain Nith, Yun Ho Pedro Lopes

ACM CHI 2024 Interactivity

Demonstrating ecoEDA: Recycling E-waste During Electronics Design

Jasmine Lu, Beza Desta, K.D. Wu, **Romain Nith**, Joyce Passananti and Pedro Lopes

ACM UIST 2023

Demonstrating JumpMod: Haptic Backpack that Modifies Users' Perceived Jump

Romain Nith, Jacob Serfaty, Samuel Shatzkin, Alan Shen and Pedro Lopes

SIGGRAPH 2023 and ACM CHI 2023

Demonstrating the Integration of Real-World Distractions in Virtual Reality

Yujie Tao, **Romain Nith**, Pedro Lopes

ACM CHI 2022 Interactivity

Demonstrating DextrEMS: Increasing Dexterity in Electrical Muscle Stimulation by Combining it with Brakes

Romain Nith, Shan-Yuan Teng, Pengyu Li, Yujie Tao, Pedro Lopes

ACM UIST 2021 Demo (virtual) – **Best Demo Award (people's choice)**

Falconer: A Tethered Aerial Companion for Enhancing Personal Space

Romain Nith, Jun Rekimoto

IEEE VR 2019 Workshop and CHI HDi 2019 Workshop

Research and work experience

Human Computer Integration Lab – University of Chicago

Research Assistant in HCI and Teaching Assistant

Advisor: Prof. Pedro Lopes

Sept 2020 – Current

Chicago, USA

TMW Center for Early Learning + Public Health

Part-time Research Assistant

Oct 2020 – Current

Chicago, USA

Reality-Lab Research – Meta

Haptics Research Scientist Intern

June – Dec 2024

Redmond, USA

Human Computer Integration Lab – University of Chicago

Visiting Research Assistant in HCI

Advisor: Prof. Pedro Lopes

June – Aug 2019

Chicago, USA

Sony Computer Science Laboratories

Research Assistant Intern in HCI

Advisor: Prof. Jun Rekimoto

May – Aug 2018

Tokyo, Japan

Shared Reality Lab – McGill University

Senior engineering research project

Advisor: Prof. Jeremy Cooperstock, in collaboration with Prof. Pedro Lopes

Jan – Dec 2018

Montreal, Canada

Sony Computer Science Laboratories
Research Assistant Intern in HCI
Advisor: Prof. Jun Rekimoto

May – Aug 2017
Tokyo, Japan

Teaching and mentoring

Teaching assistant	Engineering Interactive Electronics onto PCB (CMSC 23230/33230) Department of Computer Science, The University of Chicago <u>Instructor</u> : Prof. Pedro Lopes <u>Responsibilities</u> : Co-designed entire class with instructor from the ground up, including lecture material and assignments. Had 20 undergraduate and graduate students design and make their first printed circuit boards. Class was taught virtually.	Spring 2024
	Inventing, Engineering and Understanding Interactive Devices (CMSC 23220) Department of Computer Science, The University of Chicago <u>Instructor</u> : Prof. Pedro Lopes <u>Responsibilities</u> : Designed major assignments, including pong game with microcontroller communicating wirelessly to opponent, PID self-balancing ball. Had 20 undergraduate students design and build their first wearable device.	Spring 2021
	Engineering Interactive Electronics onto PCB (CMSC 23230/33230) Department of Computer Science, The University of Chicago <u>Instructor</u> : Prof. Pedro Lopes <u>Responsibilities</u> : Co-designed entire class with instructor from the ground up, including lecture material and assignments. Had 20 undergraduate and graduate students design and make their first printed circuit boards. Class was taught virtually.	Fall 2020
	Introduction to Human Computer Interaction (CMSC 20300) Department of Computer Science, The University of Chicago <u>Instructor</u> : Prof. Pedro Lopes <u>Responsibilities</u> : Assisted with grading and office hours. Class was taught virtually to 40 undergraduate students.	
Graduate students	Pengyu Li (U'Chicago, '19-'20), Yujie Tao (U'Chicago, '20), Alan Shen (U'Chicago, '21-'23), Philip Chmielowiec (U'Chicago, '24-), Micheal Berg (U'Chicago, '24-), Mithil Guru (UIUC, '24-)	
Undergraduate students	Jersey Fonseca (U'Chicago, '20), Sam Shatzkin (U'Chicago, '21-22), Jacob Serfaty (U'Chicago, '22-), Yun Ho (NTU, '23-), Alicia Chun (U'Chicago, '24-), Gus Waldspurger (U'Chicago, '24-).	
High school students	Siya Choudhary (James B. Conant, '23-24), Hunter Mathews (IMSA, '23-24)	

Services

Program Committee	ACM CHI Late-Breaking Work Associate Chair (2023-2024)
Paper Reviewer	ACM CHI, UIST, DIS, ISWC, TEI, SUI, SIGGRAPH, SIGGRAPH ASIA
Student volunteer	ACM UIST 2021 (virtual)

Extra-curricular activities

McGill Formula Racing Team FSAE

(SAE International Formula Program: Engineering design competition consisting of designing, building, and racing a formula race car)

Montreal,
Canada

Electronics Advisor of an electric racing car

2018 – 2019

- Designed custom CAN node PCB and software to facilitate data acquisition and transfer across devices on the car
- Lead team strategies for dynamic events at competitions such as setup, battery management, driver order
- Lead testing sessions for car's durability and implementation of new features

Electronics Subteam Leader of an electric and a combustion racing car

2016 – 2018

- Lead and managed the electronics subsystem as well as took part in the upper-level decisions of the team
- Collaborated with other subsystems to meet requirements and improve performance
- Mentored new members by teaching design and manufacturing skills

Electronics Subteam Member of a combustion racing car

2013 – 2016

- Designed and manufactured complete electronic system with custom built motorsport-grade electronic harness and PCBs with NX (CAD) and Altium (PCB)