

Thinh 'Ted' Nguyen-Vo

SOFTWARE DEVELOPMENT

DATA SCIENCE / MACHINE LEARNING / DEEP LEARNING

HUMAN-COMPUTER INTERACTION / USER EXPERIENCE / VIRTUAL REALITY

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🌐 <https://thinh.nguyenvo.me>

AT A GLANCE

- 4+ years of **programming and coding** experience
- 2+ years of **academic experience** in HCI research focusing on VR
- Proficient in **data visualization**, **data analysis**, and **machine learning**

EDUCATION

Master of Science September 2018
School of Interactive Arts + Technology, Simon Fraser University, Canada

- CGPA: 4.00 / 4.33
- Publications presented at IEEE Virtual Reality 2018, Spatial Cognition 2018, IEEE 3DUI 2017, ACM SAVR 2017

Bachelor of Science October 2015
Advanced Program in Computer Science, HCM University of Science, Vietnam

- CGPA: 3.94 / 4.00
- 2nd Prizes of **ACM/ICPC** Vietnam National Rounds x 2 years (2012 & 2013)
- 2nd Prize of Vietnam **National IT Olympiad** 2012
- Publications presented at ICCAIS 2013, HCII 2015

IBM Data Science Professional Certificate October 2018
9-course specialization by IBM on Coursera

RECENT EXPERIENCE

Teaching Assistant 2017 - 2019
School of Interactive Arts and Technology (SIAT), Simon Fraser University

- Teach fundamental CS concepts, e.g., OOP, data structure, searching algorithm, and design patterns; demonstrating with programming tutorials in Java Swing
- Coordinate activities in HCI research methods labs, e.g., heuristic evaluation, cognitive walkthrough, contextual inquiry, etc.

Research Assistant 2016 - 2018
iSPACE Research Laboratory

- Develop VR simulations to collect user behavioral data in experimental tasks, among which is used on NASA International Space Station
- Conduct mixed-method experiments with human subjects
- Analyze data with statistical models and compile scientific reports

Research Assistant Summer 2015
Polytechnique Montréal

- Develop vision-based tracking system for pedestrian tracking in public
- Evaluate state-of-the-art models with real and massive data

TECHNICAL SKILLS

Programming

- Proficient in Java, Python, C#, C++, and MATLAB
- Solid knowledge in data structure, algorithm, and OOP

Data Analysis

- Familiar with visualization tools/libraries (Tableau, Matplotlib)
- Experienced with statistical analysis (SAS jmp, IBM SPSS, SciPy)

Machine Learning / Deep Learning

- Experienced in applying machine learning models/algorithms in Computer Vision
- Familiar with deep neural networks (particularly CNN) in classification problems

FEATURED PROJECTS

Efficiently Navigating Virtual Environments HCI, VR
<https://thinh.nguyenvo.me/tag/thesis/>

- VR users tend to get motion sick and/or spatial disoriented when travelling in VR
- I proposed using different motion cues from body-based sensory systems to assist users' cognitive process of spatial updating during motion
- Results revealed significant positive effects of these factors on user motion sickness, spatial disorientation, and even task load. Results were published at IEEE VR 2018, Spatial Cognition 2018, IEEE 3DUI 2017

EEG-Based Orientation Demand Detector VR, Machine Learning
<https://thinh.nguyenvo.me/tag/eeg/>

- It is challenging to objectively measure how well users maintain spatial orientation in VR, current approach is to measure user performance in designated tasks
- I proposed an AI-based approach to use electroencephalogram (EEG) signal from human brain and an advanced technique in deep learning, i.e., convolutional neural network (CNN), to predict user's orientation demand
- Results showed 96% accuracy with no human input required as in traditional analysis methods. Results were published at ACM SigPlan workshop SAVR 2017

Smart Teddy Bear: A Vision-based Story Teller Machine Learning, HCI
<https://thinh.nguyenvo.me/tag/teddy/>

- Parents sometimes do not have time for bed-time story telling with their kids
- We proposed a Smart Teddy Bear that can recognize the book cover and tell the corresponding story. Kids might play with the bear by simply waving a book to it.
- The backbone of our Smart Teddy Bear is an image recognition system built with machine learning models, e.g., SVM, K-Means, and Bag-of-words.
- Results showed 99.33% accuracy and were published at ICCAIS 2013.