Thinh Nguyen-Vo

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EDUCATION

Master of Science, IAT — **Simon Fraser University, CA**
Coursework: Artificial Intelligence (A-), Quantitative Research Methods (A+), Knowledge Visualization (A), and Writing for Publication (A)
CGPA: 4.00 / 4.33

Bachelor of Science, CS — **VNUHCM University of Science, VN**
Coursework: Machine Learning (A+), Computer Vision (A+), Algorithms & Complexity (A+), Linear Algebra (A), and Applied Statistics (A+)
CGPA: 3.94 / 4.00

Data Science Professional Certificate — **IBM on Coursera**
9-course specialization: Data Science Methodologies, Python for Data Science, Databases and SQL, etc., illustrated in IBM Cloud (Watson)

Algorithms — **Stanford on Coursera**
4-course specialization: Sorting and Searching, Graph Search, Greedy Algorithms, Dynamic Programming, NP-Complete, etc.

EXPERIENCE

Teaching Assistant — **Simon Fraser University**
- Teach OOP, Data Structure, Searching Algorithms, and Design Patterns; illustrating with programming tutorials in Java (Swing)
- Demonstrate common research methods in HCI, e.g., heuristic evaluation, cognitive walkthrough, contextual inquiry, etc.; and facilitate students in developing final projects

Research Assistant — **iSPACE Research Laboratory**
- Develop VR simulations to collect user behavioral data in experimentation, among which is used on NASA ISS
- Conduct mixed-method experiments with human subjects
- Analyze quantitative data and compile scientific reports

Research Assistant — **Polytechnique Montréal**
- Develop vision-based tracking system for pedestrian tracking in public
- Evaluate state-on-the-art models with real and massive data

ACHIEVEMENTS

Programming
- 2nd Prizes of ACM/ICPC Vietnam National Rounds in 2 years
- 2nd Prize of Vietnam National IT Olympiad 2012

Research
- 1 full paper, 2 short papers, 2 extended abstracts, and 5 posters
- 13 citations, h-index = 3. Google Scholar: https://i.thinh.ca/gscholar

Scholarships
- Mitacs Fellowship for returning Globalink Alumni
- SFU merit-based Graduate Fellowship
- VNUHCM US merit-based scholarships for Top 3 highest GPA

TECHNICAL SKILLS

Data Science / Machine Learning
- Experienced with applying machine learning models/algorithms in Computer Vision (Python, scikit-learn, PyTorch, MATLAB, C++, Caffe)
- Familiar with Neural Networks (particularly ConvNet) in image recognition and classification problems

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

Programming
- Proficient in Python, Java, C#, and MATLAB
- Experienced with C++, HTML, Shell, Git, Docker

PUBLICATIONS / PROJECTS

Efficiently Navigating Virtual Environments (MSc Thesis)
#VirtualReality #HumanComputerInteraction #VRMotionSickness
Use motion cues from body-based sensory systems and simulated reference frames to help users reduce motion sickness and improve spatial orientation in VR

T. Nguyen-Vo, B. E. Riecke, and W. Stuerzlinger, "Simulated Reference Frame: A Cost-Effective Solution to Improve Spatial Orientation in VR," in *2018 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, 2018, pp. 415–422. https://doi.org/10.1109/VR.2018.8446383

T. Nguyen-Vo, B.E. Riecke, W. Stuerzlinger, D.-M. Pham, and E. Kruijff, "Do We Need Actual Walking in VR? Leaning with Actual Rotation Might Suffice for Efficient Locomotion," in *Spatial Cognition 2018*. https://osf.io/bs5ug/

EEG-Based Orientation Demand Detector
#CNN #NeuralNetwork #MachineLearning #VR
Apply convolutional neural network (CNN) on electroencephalogram (EEG) signal from human brain to predict user's orientation demand (difficulties in reorientation). Results showed 96% accuracy with a 4-layer ConvNet

T. Nguyen-Vo, S. DiPaola, and B.E. Riecke, "Detecting Spatial Orientation Demands during Virtual Navigation using EEG Brain Sensing," in *2017 ACM SIGPLAN Workshop on Software for Augmented and Virtual Reality (SAVR),* 2017, pp. 1–5. http://summit.sfu.ca/item/18170

Smart Teddy Bear: A Vision-based Story Teller
#MachineLearning #SupportVectorMachine #KMeans
Propose a Smart Teddy Bear that can recognize comic book covers and tell the corresponding stories. Kids might play with the bear by simply waving a book to it. Results achieved 99.33% accuracy in book recognition

D.-M. Pham, T.-N. Dam-Nguyen, P.-T. Nguyen-Vo, and M.-T. Tran, "Smart Teddy Bear a vision-based story teller," in *2013 International Conference on Control, Automation and Information Sciences (ICCAIS)*, 2013, pp. 257–262. https://doi.org/10.1109/ICCAIS.2013.6720564