Thao Phung

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EDUCATION

Colorado School of Mines, Golden, CO *Jan 2020 - Now*

Ph.D. in Computer Science
Research Interest: Human Robot Interaction (HRI), Augmented Reality (AR), Cognitive Science
Advisor: Tom Williams

University of Wyoming, Laramie, WY *Aug 2013 - Dec 2018*

B.S. in Computer Science

Online Degrees, Udacity

Bertelsmann Data Science Challenge *May 2018 - Aug 2018*
Front-End Web Developer Nanodegree *Apr 2018 - Oct 2018*
Intro to Self-Driving Cars Nanodegree *Oct 2017 - Jan 2018*
Deep Learning Foundation Nanodegree *Feb - Sept 2017*
Machine Learning Nanodegree *Aug 2016 - Jul 2017*

PUBLICATIONS

1. Nhan Tran, Kai Mizuno, Trevor Grant, Thao Phung, Leanne Hirshfield, Tom Williams. "Exploring Mixed Reality Robot Communication Under Different Types of Mental Workload". In: *VAM-HRI* (2020)

2. Adam Stogsdill, Thao Phung, Tom Williams. "Investigating Confidence-Based Category Transition of Spatial Gestures". In: *HRI-NLRG* (2020)

3. Thao Phung, Anh Nguyen, Jeff Clune. "Learning to Solve Symbolic Math from Visual Inputs". In: *WiM-NIPS* (2018)

4. Thao Phung, Amy Banic. "Investigation on the Use of Perception Manipulation to Enhance Virtual Reality Training". *RMCWIC* (2016)

RESEARCH AND PROJECTS

American sign language (ASL) recognition using deep neural networks *May 2018*
Oral presented at Wyoming Undergraduate Research Day

- Hand-designed a training set of over 2860 videos for ASL alphabet including motion letters.
- Trained convolutional neural networks (CNNs) and recurrent neural networks (RNNs) using Python to recognize ASL hand gestures performed by different people in different lighting conditions.
- On a small, hand-generated training set, obtained 9.7% accuracy on test set, improving over the 3% accuracy obtained by random guessing.

Learning to solve symbolic math from visual inputs *May 2017*
Poster presented at CVPR 2017 and NIPS 2017 workshops

- Trained CNNs to do addition and subtraction given visual inputs of handwritten equations.
- Obtained 98% test set accuracy on new handwriting styles of previously seen equations and 15% accuracy on entirely new equations.

Investigation on the use of perception manipulation to enhance virtual reality training *Oct 2016*
Poster presented at Rocky Mountain Celebration of Women in Computing (RMCWiC) 2016

- Researched action-specific perception: how a person's perception of the environment changes in conjunction with his/her ability to act in it.
- Designed Oculus-driven golf putting simulation in Unity.

WORK EXPERIENCE

Research Assistant *Jan 2020 - Now*
Colorado School of Mines

Library Technical Assistant *Oct 2016 - July 2019*
Coe Library, University of Wyoming
- Learned how to professionally handle and prepare fragile fossil specimens for 3D digitization using HP 3D Scan with structured light scanning technology and Clearform's Portable 3D Scanner.
- Processed more than 450 digital objects in different formats to be delivered via web; assisted with deployment and visualization of 3D objects on mobile devices.
- Developed a user-friendly, interactive web presentations of high-resolution 3D models.

Research Assistant
Evolving AI Lab, University of Wyoming *Dec 2016 - Dec 2018*
3DiA Lab, University of Wyoming *Apr 2015 - Dec 2016*
- Collaborated with a diverse group of graduate students on several research projects, resulting in two presentations at major conferences.
- Presented research papers and offered advice on other research projects during weekly lab meeting.

TECHNICAL SKILLS

- Extensive experience developing machine learning applications in Python using sikit-learn and Keras libraries.
- Fluent in developing solutions to classification problems via regression, clustering, and deep learning in Python.
- Familiar with using Caffe and Tensorflow frameworks to perform research in artificial intelligence.
- Comfortable operating Linux, Mac OS X, and Windows operating systems.
- **Languages and Software**: Python, C++, Java, C#, HTML, CSS, Microsoft Office, Adobe Photoshop
- **Statistical Methods**: regression models, dimensionality reduction, Bayesian statistics

COURSE WORKS

- Computer Vision
- Machine Learning
- Artificial Intelligence
- Data Mining
- Linear Algebra

GRANTS AND FELLOWSHIPS

- Women in Machine Learning at NIPs travel award: $300 *Dec 2017*
- Women in Computer Vision at CVPR travel award: $900 *Jul 2017*
- Wyoming Research Scholar Program grant: $500 *Jul 2017*
- EPSCoR Research Fellowship: $1,600 *Oct 2015 - May 2016*

AWARDS AND SCHOLARSHIPS

- Bertelsmann Data Science Challenge Scholarship *May 2018 - Aug 2018*
- Grow with Google Front-End Web Developer Nanodegree Scholarship *Apr 2018 - Oct 2018*
- Grow with Google Challenge Scholarship: Front-End Web Dev *Jan 2018 - Apr 2018*
- Lyft Intro to Self-Driving Cars Scholarship: $800 *Oct 2017 - Jan 2018*
- 3rd Best Poster Presentation at RMCWiC *Sept 2016*
- International Student Scholarship: $1,000 *Aug 2014 - May 2015*
- Rocky Mountain Scholars Award: $22,000 *Aug 2013 - May 2017*

PRESENTATIONS

Poster Presentations

- **Women in Machine Learning (WiML) in conjunction with NIPs** *Dec 2017*
Learning to solve symbolic math from visual inputs *Long Beach, CA*

- **Women in Computer Vision (WiCV) in conjunction with CVPR** *Jul 2017*
Learning to solve symbolic math from visual inputs *Honolulu, HI*

- **Rocky Mountain Celebration of Women in Computing (RMCWiC)** *Sept 2016*
Investigation on the use of perception manipulation to enhance virtual reality training *Salt Lake City, UT*

Oral Presentation

- **Research Day, University of Wyoming** *Apr 2018*
American Sign Language Recognition with Microsoft HoloLens *Laramie, WY*

- **Research Day, University of Wyoming** *May 2016*
Investigation on the use of perception manipulation to enhance virtual reality training *Laramie, WY*

SERVICES AND ACTIVITIES

Reviewing

- Workshop papers: WiML2017

LANGUAGES

Vietnamese	Native speaker
English	Proficient