Anh (Joe) Nguyen

realjoenguyen | realjoenguyen.github.io | nguyejoe@oregonstate.edu | Oregon, USA

Highlight

- I'm a PhD student working on Language-conditioned reinforcement learning (RL) agents: how to make AI agents understand human language and act accordingly, resulting in one publication at NeuRIPS [1] and some RL projects [5].
- I also have experience in 1) multimodal (visual+language) referring expressions: building the first underwater dataset and developing a method to clarify ambiguous expressions, and 2) NLP problems (text summarization, OCR, text classification).

Selected Research Experience

Oregon State University — Research Asisstant Jan 2022 - present

– Ongoing work: Developing a GUI (computer) agent that can understand text and video tutorials to achieve a better success rate for daily-life computer tasks.

– Developed an agent that can understand language descriptions of environment dynamics and act accordingly. The agent achieves state-of-the-art generalization over new language associated with unseen environment dynamics, over existing methods (Dynalang, EMMA, LWM) [1]

– Collected a new dataset in referring expressions for underwater objects. Compared and analyzed results from the state-of-the-art methods OFA and CLIP: both have low accuracy performance on underwater objects that are rare in territorial settings.

– *Advised by Prof. Stefan Lee*

Singapore Management University — Research Engineer Nov 2019-Nov 2021

– Developed a method that can clarify ambiguous language queries in visual domains (referring expression): detect the most ambiguous portion of the query based on neural module network, then raise an relevant clarifying question to users.

– The method results in more efficient clarifying process: less than 10% of clarifying questions than existing baselines in CLEVR-Ref and Ref-Reasoning.

– *Advised by Prof Jiang Jing*

Research intern in OCR — KMS Vietnam Sep-Dec 2017

– Built a CNN model in resume parsing (turn resume into structured database): 93% F1 score

– Developed CNN-LSTM-CTC method to extract structured information from receipt image: state-of-the-art results on Vietnamese (CER 0.06%, accuracy 55%).

Research intern in NLP — Knorex Vietnam Jun-Sep 2017

– Developed a dataset and a CNN model to solve Brand Safety problem, i.e. classify bad content categories in text such as Adults, Death & tragedy, violence, etc: overall 95% F1

– Cleaned dataset, sparse feature engineering and developed an logistic regression model for Click-through rate problem, improved 10% AUC to previous model of the company.

Publication

1. Anh Nguyen, Stefan Lee. Language-conditioned world model improves policy generalization by reading environmental descriptions, accepted at Bridging Language, Agent, and World Models workshop at NeurIPS2025.

2. Anh Nguyen, Duy Tue Tran Van, Minh Quoc Nghiem. Bachelor Thesis: Extractive summarization with bidirectional encoder representations from transformers: achieves state-of-the-art *long-text* summarization on CNN/Daily Mail (2019).

3. Duy Phung, Tu Minh, Anh Nguyen, Tien Dinh, *"DTA Hunter System: A new statistic-based framework of predicting future demand for taxi drivers"*, accepted for presentation @ SoICT 2017 (The Eighth International Symposium on Information and Communication Technology)

Education

2022 - 2027 (Expect)	Msc (thesis) and PhD (Artificial Intelligence) at **Oregon State University** Advised by Professor Stefan Lee
2014 - 2019	Bachelor's Degree at **VNU-Ho Chi Minh University of Science** (GPA: 3.8/4.0, top 5% of Department) Advised by Dr. Nghiem Quoc Minh

Academic Projects

- **Language-conditioned LLM-based world model**: Identified the research gap of current LLM-based model based RL systems: they failed to incoperate language into the world model, thus unable to change world modeling on the fly based on language.
- **Exploration in RL**: Compared different exploration strategies in model-based RL: count-based, curiosity-based and Monte-Carlo dropout in PointMaze
- **Search in Games (Sudoku and (M,N,K))**: Compared different tree search in Sodoku and (M,N,K) game: Monte-Carlo Tree Search, A* and Minimax with Alpha-Beta prunning.

Awards

2025	Scholarly Presentation Award from Oregon State University.
2022	Vietnam Education Foundation (VEF) 2.0 candidate for Ph.D programs in the USA.
2019	Fully funded exchange at APEC Digital Innovation and Entrepreneurship Forum (Taiwan)
2019	Fully funded exchange at GKS ASEAN SCIENCE at Kyungwoon University (Korea)
2019	Fully funded exchange at KAIST (South Korea)
2019	Fully funded exchange at Southeast Asia Machine Learning School
2019	Scholarship from Shinhan Bank for excellent students
2017	Scholarship from American Chamber of Commerce Vietnam for excellent students
2017	Scholarship from Global Cybersoft for excellent students
2017	Scholarship from Esilicon Vietnam for excellent students
2016	ACM-ICPC Vietnam National Competitive programming: Third Prize
2016	HCMc University of Science Olympiad in Informatics : Honorable mention
2014	Viethope Scholarship for excellent college students
2013	National Vietnam Olympiad in Informatics: Honorable Mention
2013	Vallet scholarship for excellent students

Skills

Programming	C++ (expert), Python (expert), Java (familiar with), competitive programming
Research (expert)	Pytorch, Jax, Tensorflow, deep learning, reinforcement learning, LLM

Last updated: October 26, 2025