

Anh (Joe) Nguyen

 [realjoenguyen](#) |  [realjoenguyen.github.io](#) |  nguyejoe@oregonstate.edu |  [personal email](#) |

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.

SELECTED RESEARCH EXPERIENCE

Oregon State University—Research Assistant

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 incorporate 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 pruning.

AWARDS

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| 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 contest: Third Prize |
| 2016 | HCMc University of Science Olympiad in Informatics : Honorable mention |
| 2013 | Vietnam Olympiad in Informatics for High-school Student: Honorable Mention |

TEACHING ASSISTANT EXPERIENCES

- Introduction to Machine Learning (graduate, undergrad) (2023)
- Introduction to Programming Language (undergrad) (2022)
- Computer Science Capstone (undergrad) (2023)