

# Khanh Nguyen

 Google Scholar    Github    Twitter  
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## RESEARCH OVERVIEW

*General areas:* machine learning, natural language processing, human-agent interaction

*Topics of focus:* assistant AI, interactive learning, grounded language learning.

*Vision:* Machine learning has traditionally evaluated agents on their abilities to accomplish tasks on their own, promoting agents that are optimized for independent task solving while lacking incentive and skills required for working with and for humans. My goal is to equip AI assistants with more effective capabilities of communicating with humans, and show that such capabilities enable these assistants to become more helpful and trustworthy for humans.

## EDUCATION

- |           |                                                                                                                              |
|-----------|------------------------------------------------------------------------------------------------------------------------------|
| 2015-2022 | <b>Ph.D.</b> in Computer Science<br>University of Maryland, College Park<br>Advisor: Hal Daumé III                           |
| 2011-2015 | <b>B.S.</b> in Computer Science<br>University of Massachusetts, Amherst<br>Advisor: Brendan O'Connor and Erik Learned-Miller |

## WORK EXPERIENCE

- |                   |                                                                                                               |
|-------------------|---------------------------------------------------------------------------------------------------------------|
| August 2022–2023  | <b>Postdoctoral Research Associate</b><br>Princeton University<br>Mentor: Karthik Narasimhan                  |
| May–Aug 2020      | <b>Research intern</b><br>Microsoft Research New York<br>Mentors: Dipendra Misra, Robert Schapire, Miro Dudík |
| May–Aug 2018      | <b>Research intern</b><br>Microsoft Research Redmond<br>Mentors: Debadepta Dey, Bill Dolan, Chris Brockett    |
| May–Aug 2017      | <b>Research intern</b><br>Microsoft Research Redmond<br>Mentor: Paul Mineiro                                  |
| Summers 2014-2016 | <b>Software Engineer intern</b><br>Google                                                                     |
| May–Aug 2013      | <b>Software Engineer intern</b><br>TripAdvisor                                                                |

## PUBLICATIONS

### Peer-Reviewed Conferences

- ICML'22 *A Framework for Requesting Rich and Contextually Useful Information from Humans*  
**Khanh Nguyen**, Yonatan Bisk, and Hal Daumé III (spotlight)
- ICML'21 *Interactive Learning from Activity Description*  
**Khanh Nguyen**, Dipendra Misra, Robert Schapire, Miro Dudík, and Patrick Shafto (short talk)
- EMNLP'19 *Help, Anna! Vision-based Navigation with Natural Multimodal Assistance via Retrospective Curiosity-Encouraging Imitation Learning*  
**Khanh Nguyen** and Hal Daumé III (oral)
- CVPR'19 *Vision-based Navigation with Language-based Assistance via Imitation Learning with Indirect Intervention*  
**Khanh Nguyen**, Debadeepta Dey, Chris Brockett and Bill Dolan
- EMNLP'17 *Reinforcement Learning for Bandit Neural Machine Translation with Simulated Human Feedback*  
**Khanh Nguyen**, Hal Daumé III, Jordan Boyd-Graber
- WMT'17 *The UMD Neural Machine Translation Systems at WMT17 Bandit Learning Task*  
Amr Sharaf, Shi Feng, **Khanh Nguyen**, Kianté Brantley, and Hal Daumé III
- IWSLT'15 *The UMD Machine Translation Systems at IWSLT 2015*  
Amittai Axelrod, Ahmed Elgohary, Marianna Martindale, **Khanh Nguyen**, Xing Niu, Yogarshi Vyas, Marine Carpuat
- EMNLP'15 *Posterior Calibration and Exploratory Analysis for Natural Language Processing Models*  
**Khanh Nguyen** and Brendan O'Connor

### Workshops

- 2019 *Global Voices: Crossing Borders in Automatic News Summarization*  
**Khanh Nguyen** and Hal Daumé III  
EMNLP 2019 Workshop on New Frontiers in Summarization

### Technical Reports

- 2020 *Active Imitation Learning from Multiple Non-Deterministic Teachers: Formulation, Challenges, and Algorithms*  
**Khanh Nguyen** and Hal Daumé III
- 2016 *Imitation Learning with Recurrent Neural Networks*  
**Khanh Nguyen**
- 2015 *The Fundamentals of Neural Networks*  
**Khanh Nguyen** and Hieu Pham

### Books

*Machine Learning: Noodles, Soups and Recipes*

## INVITED TALKS

- 2022      *New Frameworks for Human-AI Communication*  
VinAI Research  
Princeton University's NLP group  
UC Berkeley's Center for Human-AI Interaction (CHAI)  
Microsoft Research  
University of Maryland's CLIP (NLP) Colloquium
- Dec 2020    *Sequential Decision-Making*  
VietAI
- Aug 2020    *Interactive Learning from Human Instructions*  
Microsoft Research
- Sep 2019    *Empowering Navigation Agents with Natural Multimodal Assistance from Humans*  
University of Maryland, College Park
- Jun 2019    *Empowering Navigation Agents with Human Assistance*  
Microsoft Research and New York University
- Aug 2018    *Vision-Based Navigation via Language-based Interaction*  
Microsoft Research
- Nov 2017    *Structured Prediction and Reinforcement Learning*  
VietAI

## ACADEMIC SERVICES

**Workshop Organizer** InterNLP (NeurIPS 2022)

**Program Chair** of the 8th Mid-Atlantic Student Colloquium on Speech, Language and Learning (MASC-SLL 2020)

111 participants from 19 institutions

42% participants and 20/56 presenters are female

Speakers lineup featured black, white, Asian researchers

**Reviewer** ICLR (2023, 2022), ICML (2020, 2019, 2017), NeurIPS (2021, 2020), EMNLP (2019), CoNLL (2021, 2019)

**Volunteer** NeurIPS (2022), ICML (2022), EMNLP (2019), CVPR (2019)

## TEACHING EXPERIENCE (AT UMD)

- Fall 2021      **Teaching assistant**  
Just Machine Learning (fairness and bias in ML) (CMSC828Z)
- Spring 2021    **Teaching assistant**  
Computational Linguistic I (CMSC723, *the only TA for a 60-student class*)
- Spring 2020    **Teaching assistant**  
Advanced Numerical Optimization (CMSC764)

Fall 2020                    **Teaching assistant**  
Common-sense Reasoning and NLP (CMSC828J)

Fall 2016                    **Teaching assistant**  
Discrete Structures (CMSC250)

Spring 2016                **Teaching assistant**  
Social Media Computing (CMSC498J)

Fall 2015                    **Teaching assistant**  
Object Oriented Programming I (CMSC131)

## **OUTREACH ACTIVITIES**

Feb 2016–present        **Administrator** of Machine Learners  
Facebook page and YouTube channel for sharing knowledge about machine learning, research, internships, and graduate application  
7,200 Facebook followers and 780 YouTube subscribers (Nov 2021)

2010-2014                **Administrator** of Vietnam Olympiad in Informatics Forum  
Forum on algorithms and data structures for high school students  
15,000 members (Nov 2021)

## **HONORS & AWARDS**

2012-2014                **Regional Finalist**  
ACM International Collegiate Programming Contest

2009                        **Bronze Medal**  
International Olympiad in Informatics (in Bulgaria)

2009                        **First place**  
Vietnamese Team Selection Examination for the International Olympiad

Updated February 2023