

# NGUYEN HA

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## EDUCATION

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**Master of Science in Data Science**, University of Washington, WA Expected Mar 2025  
**Bachelor in Computer Science**, Clark University, MA May 2023  
**Bachelor in Data Science**, Clark University, MA May 2023  
Minor in Mathematics

## RESEARCH EXPERIENCE

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**Graduate Student Researcher**, UW Medicine Jun 2024 – Present  
Advisor: Peter Schwab, Denise Chen

- Research ML techniques to prognosticate the recovery of clinically unresponsive patients.
- Develop data processing pipelines to preprocess EEG data in Python using TensorFlow.
- Evaluate model performance using statistical methods to ensure robustness and accuracy.

**Research Assistant**, Agroimpacts Lab, Clark University Feb 2022 – May 2023  
Mentor: Lyndon Estes

- Improved machine learning prediction for agricultural mapping by implementing image segmentation and analyzing geographical features.
- Optimized image processing pipeline runtime using Python libraries.
- Developed a map-labeling web application on AWS with Sentinel Hub.

**Undergraduate Researcher**, LIPS Lab, Clark University Sep 2021 – Apr 2023  
Mentor: Gary Holness

- Designed scalable systems to improve object detection in the agricultural domain by implementing GAN and R-CNN using the TensorFlow library.
- Reviewed theoretical machine learning to understand the mathematical limits and potential of ML algorithms.

**Undergraduate Researcher**, Clark University Feb 2020 – Sep 2021  
Mentor: Shuo Niu

- Analyzed YouTube video creation characteristics using grounded theory to improve media productions as featured in CHI Conference Papers.
- Wrote text classification interface to reduce time creating labels for Amazon MTurk by 30% in JavaScript.
- Examined viewers' engagement by analyzing 8M YouTube comments from over 10,000 videos using Python libraries and YouTube Data API.

## PUBLICATIONS & POSTERS

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### Conference Papers.....

- Shuo Niu, Hugh Manon, Ava Bartolome, **Nguyen B. Ha**, Keegan Veazey. Close-up and Whispering: An Understanding of Multimodal and Parasocial Interactions in YouTube ASMR videos. In *CHI '22: ACM CHI Conference on Human Factors in Computing Systems*, April 30 - May 6, 2022, New Orleans. ACM, New York, NY, USA.
- Ava Bartolome, **Nguyen B. Ha**, Shuo Niu, 2021. Investigating Multimodal Interactions and Parasocial Attractiveness in YouTube ASMR Videos. In *CSCW '21: ACM Conference on Computer-Supported Cooperative Work & Social Computing*, October 23 - 27, 2021, Online virtual.
- Shuo Niu, Ava Bartolome, Cat Mai, **Nguyen B. Ha**. 2020. #StayHome #WithMe: How Do YouTubers Create Videos for COVID-19 Loneliness? In *CHI '21: ACM CHI Conference on Human Factors in Computing Systems*, May 08–13, 2021, Online virtual. ACM, New York, NY, USA.

**Posters**.....

- **Nguyen B. Ha**, Philippe Nziza, 2023. Experiments in Synthesized views for Improved Pest Detection. In ClarkFEST 20223, April 26, 2023. Worcester, MA, US.
- Ava Bartolome, Cat Mai, **Nguyen B. Ha**, 2021. #StayHome #WithMe Investigating How YouTubers Help Deal with COVID-19 Loneliness. In Clark University Winter Fest 2021, February 5, 2021, Online virtual.

**Working Papers**.....

- Khallaghi, S., Abedi, R., Abou Ali, H., Alemohammad, H., Asipunu, M. D., Alatise, I., **Ha, N.**, Luo, B., Mai, C., Song, L., Wussah, A., Xiong, S., Yao, Y., Zhang, Q., Estes, L. D. (2024). Generalization Enhancement Strategies to Enable Cross-year Cropland Mapping with Convolutional Neural Networks Trained Using Historical Samples. arXiv:2408.06467. <https://doi.org/10.48550/arXiv.2408.06467>.

**HONORS & AWARDS**

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**2022**      Clark University      LEEP Research Fellowship

**WORK EXPERIENCE**

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**Quality Assurance Intern** May 2021 – Sep 2021  
 NexLab Technology Ho Chi Minh City, Vietnam

- Improved software product quality by mapping business functions to software solutions.
- Reduced debugging time by 5% by performing quality tests and communicating with the design and development teams.

**Academic Technology Assistant** Oct 2019 – Mar 2020  
 Clark University Office of Information Technology Services Worcester, MA

- Maintained optimal website performance of 3 academic websites by performing quality testing.
- Troubleshoot software issues coming from students, professors, and school staff.

**TEACHING EXPERIENCE**

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**Teaching Assistant** Jan 2020 - May 2022  
 Clark University Worcester, MA

- Classes: Honors Calculus II (S22) & Discrete Mathematics (S20)
- Hold weekly discussions and office hours. Prepared solutions and graded assignments.

**TALKS & PRESENTATIONS**

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- Navigating Graduate Education: A Roadmap to Success, Speaker Feb 2023
- Data Science Admission Open House, Panelist Apr 2023

**SKILLS**

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**Tech Stack**                      Python, R, Tableau, SQL, Azure, AWS, Java, C, C++, MongoDB, HTML, CSS, JavaScript, NodeJS, ReactJS, Django, Docker, Git, LaTeX

**Machine Learning**            Scikit-learn, TensorFlow, Keras, PyTorch

**Language**                        Vietnamese (native), English (proficient)