NGUYEN KHAI NGUYEN

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EDUCATION

B.S. in Computer Science & Engineering, Bucknell University, Lewisburg, PA   **Aug 2019 – May 2023**
- **Overall GPA: 3.95**
- Clubs and Organizations: Machine Learning Association - Secretary, Vietnamese Student Association - Treasurer, Society of Asian Awareness at Bucknell - Treasurer, Association for Computing Machinery - Member

SKILLS

- Languages: Python, C, C++, Java, Matlab, SQL
- Libraries and Frameworks: ACT-R, tensorflow, keras, pytorch, pandas, numpy, UNIX Shell, Git, Junit 5, Unit Testing, Agile, Scrum

EMPLOYMENT

Undergraduate Researcher   **Dr. Kelly's Cognitive Modeling and AI Lab**   **May 2021 – Present**
- Research on designing language models capable of overcoming the catastrophic interference to model human multi-language acquisition process
- Preprocess 20,000 images using tf.keras ResNetV2 and tokenize 200,000 English and Spanish captions in the multilingual MSCOCO-ES image captioning dataset
- Create and train a draft multilingual multimodal model using tf.keras capable of processing images with English and Spanish captions
- Implement the delta-RNN model into the multilingual multimodal model after migrating the legacy code to tensorflow 2.5.0

Research Assistant   **Bucknell University SHiCC Lab**   **Aug 2021 – Present**
- Analyze existing problems in ACT-R agent's vision module and test solutions to improve the agent's responsiveness to objects
- Evaluate the agent's performance versus agent trained by machine learning based on their ability to complete given tasks in the Malmo environment

Calculus I Study Group Leader & Tutor   **Bucknell University**   **Aug 2021 – Present**
- Organize a weekly study group of 90-minute for students in Calculus I
- Give strategic advices and facilitate active learning among students to elevate their level of understanding of the material
- Communicate with the course's professor to report the students' progress and feedback to better adjust the pace of the course
- Assess students' understanding of related concepts and provide suggestions for students to independently solve the problems

Junior Data Specialist   **VietAbroader Organization**   **July 2020 – Jan 2021**
- Collected data of more than 400 US national universities and liberal arts colleges from online open sources
- Designed the Vietnamese-friendliness scores of US schools with 10 team-members based on the collected data for the organization's ranking system

PROJECTS

Baba Is Us, Maintainer   **Apr 2021 – May 2021**
- Created a simple 6-level version of the game BaBa Is You by implementing the MVC design pattern with JavaFX GUI
- Developed the game board GUI, moving functionality of the character and the 3 basic levels of the game
- Worked as the Scrum Product Owner, implemented the user stories into the game design and communicated our design to our customer
- Collaborated with 3 team members throughout 4 Sprints and used Scrum artifacts to keep track of our progress

Visual bot for visual representation, Contributor   **Jan 2021 – Feb 2021**
- A project replicating the functionality of the pyautogui python package
- Tested and provided feedback on the keyboard and mouse remote control functionality of the project

Mathematical Contest in Modeling, Team Member   **Feb 2020 – Mar 2020**
- Developed solution models for a fictional ecommerce company with 2 team members
- Analyzed the relation between star-rating and usefulness of the company's rating system and calculate their squared correlation coefficient to find useful reviews
- Determined existing problems of the products by extracting keywords from the useful reviews
- Ranked top 26% of 13753 participating teams from the US & China