Dung Nguyen

Curriculum Vitae

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EDUCATION

B.A., Computer Science — Dec. 2020
Earlham College — Richmond, Indiana, United States

RESEARCH EXPERIENCE

Senior Capstone Project, Department of Computer Science — Fall 2020
Earlham College — Richmond, Indiana, United States

Project: *An Integrated Model for Offline Handwritten Chinese Character Recognition Based on Convolutional Neural Networks*

- Developed an image pre-processing method comprising various current techniques to enhance the quality of the images.
- Implemented a convolutional neural network model for character classification that achieved an accuracy rate of 95% for the segmented characters dataset.
- Currently working on implementing an error correction model based on statistical language modeling.

Student Researcher, Department of Computer Science — Jan. 2020 – Present
Earlham College — Richmond, Indiana, United States

Project: *Surveying and Terrestrial Mapping Project*
The project is a part of the interdisciplinary research that supports archaeologists in the search for Norse artifacts in Iceland.

- Created 3D rendering of the archaeological sites with OpenDroneMap.
- Currently working on the image analysis workflow.
- Currently studying edge detection methods to detect subsurface features in the images of the archaeological sites.

Research Intern, Institute of Image Processing and Pattern Recognition — Jul. 2019 – Aug. 2019
School of Electronic Information and Electrical Engineering
Shanghai Jiao Tong University — Shanghai, China

Project: *Colonic Polyps Classification with Deep Neural Networks*

- Studied medical image processing methods and deep learning techniques with Python, PyTorch and Keras.
- Developed image pre-processing methods to denoise and enhance the quality of the endoscopic images of the colonic polyps.
- Designed and built a model based on deep neural networks for polyp localization and behavior classification (benign vs. malignant) in endoscopic images, videos, and ultimately in real-time to assist doctors in the endoscopic diagnosis and removal of the malignant polyps.

WORK EXPERIENCE

Student System Administrator, Department of Computer Science Jan. 2019 – Dec. 2020
Earlham College Richmond, Indiana, United States

- Configured and managed the machines, computational clusters, and networks that are used for classes and research by the Department of Computer Science and other science departments.

SKILLS

Professional skills

- Programming languages: Python, C, and Bash
- Machine learning frameworks: TensorFlow, Keras, PyTorch, Scikit-learn
- Image processing tools: OpenCV, Pillow
- Operating systems: Linux, Unix

Language skills

- Vietnamese (native)
- English (fluent)
- Mandarin Chinese (fluent)

HONORS AND AWARDS

- Member of the Phi Beta Kappa Society May 2021
  The Phi Beta Kappa Society is the most prestigious honorary society in the U.S., which honors the brightest liberal arts and sciences undergraduates from the top 10% of U.S. universities. Each year, the top 10% of graduating class at Earlham College are invited to Phi Beta Kappa.
- William Roha Computer Science Endowed Award Apr. 2021
  Awarded annually to seniors by the Department of Computer Science at Earlham College in recognition of outstanding work in Computer Science.
- Graduated with College Honors, Earlham College Dec. 2020
- Grace Hopper Celebration Scholarship, AnitaB.org Sept. 2020
- First Place in Indiana State Chinese Language Contest (College Level), CLTA-IN Apr. 2019

PROFESSIONAL AFFILIATIONS

- **The Association for Computing Machinery - Women (ACM-W)** Jun. 2019 – Present
  Earlham College's ACM-W Student Chapter
  - Vice Chair May 2020 – Feb. 2021
  - Chapter member Jun. 2019 – May 2020
- **The Association of Women in Mathematics (AWM)** Nov. 2017 – Present