KIEN PHAM

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Education

Bachelor of Computer Science Sep 2021 – May 2025 (expected)

- **College of Science and Engineering**, Honors, University of Minnesota – Twin Cities, Minneapolis, MN
- **Awards:** Global Excellence Scholarship ($60,000), Jawaid U. and Helen Z. Elahi Legacy Fund Scholarship ($20,000), Undergraduate Research Scholarship ($1,400).
- Leading member of UMN Data Science Club. Active member of UMN.CPP, ACM UMN, Social Coding, and Ball Dance club.

HUS High School for the Gifted (HSGS) Aug 2016 – Jun 2019

Work experiences

Research Intern, VinAI Research, Hanoi, Vietnam Jul 2019 – Aug 2020

- I specialized on computer vision and deep learning. My main project is the Trash Detection and Mapping for A Geographical Area detailed below. Later, I also joined the engineering team for 3 months to implement a face anti-spoofing algorithm for android phones.

Intern, AI Residency Program, FPT Software, Hanoi, Vietnam May 2021 – Aug 2021

- I investigated how reinforcement learning algorithms, such as Q-learning, Monte Carlo, and Tree search, tackles difficult classical games like Atari and Go.

Projects

Trash Detection and Mapping for A Geographical Area Aug 2019 – Feb 2021

Mentor: Minh Hoai Nguyen, Principle Research Scientist, VinAI Research. Collaborated with Stony Brook University's CVLab.

- Built a dataset of over 44,000 trash images collected around Hanoi + Google StreetView API to train Mask RCNN detection model. Proposed a novel measurement for quantifying and visualizing the trash density level of most urban areas.

Global Face Anti-Spoofing for VinSmart Android Phones Mar 2020 – Jun 2020

Mentor: Tuan Anh Tran, Research Scientist, VinAI Research.

- Implemented the paper, "Domain Agnostic Feature Learning for Image and Video-Based Face Anti-spoofing" (Suman et al.).

Draw-on-Face Jul 2019

- Created a program to automatically draws glasses and colors lips based on a pretrained facial landmarks detection model.

Standardized Tests

SAT: 1540/1600 Oct 5th, 2019

SAT Subject Tests: Mathematics Level 2: 800/800 | Physics: 800/800 May 4th, 2019

TOEFL iBT: 109/120 Sep 6th, 2020

Honors and Awards

2019	• One of the few outstanding students who was directly admitted to Vietnam National University, Hanoi.
2018	• 3rd prize in Vietnam National University's Honors of Excellence in Computer Science
2017	• Silver medal in the HSGS Olympiad (participants come from Olympiad teams of Vietnam's top high schools). • Promoted to USACO Platinum division – an US online National programming competition. • Highest score in high school class in the national team selection competition.

Extracurricular activities

HSGS Code Camp Project Jun 2018

Lectured C++ programming, algorithms, and data structures for 6 specialized classes (~300 students) from middle schools in Hanoi.

Co-author of a competitive programming book Jul 2017

Wrote a chapter about algorithms and problems involving parenthesis. Published by the Informatics Department of HSGS.

Skills

- Proficient with C++ (3 years), Java (1 year), and Python (2 years). Also familiar with HTML/CSS.
- Experienced with deep learning frameworks (*Pytorch, Tensorflow, Keras*) and libraries (*opencv, numpy, pandas, scipy, matplotlib, scikit-learn, dlib, imutils, pillow, seaborn, etc.*). Can effectively implement popular object detection algorithms (*Faster R-CNN, RetinaNet, SSD, YOLO, etc.*) and deep neural networks (*VGG, DenseNet, Inception, MobileNet, ResNet, FPN, etc*).
- Passionate in problem solving, especially in mathematics and competitive programming.