




# Dustin (Vuong) Nguyen

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## SUMMARY

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Ph.D. student in Computer Science with rich research experience in Computer Vision and Deep Learning. 2-year industry experience developing AI-driven solutions for various clients. Seeking an internship in Computer Vision/Machine Learning.

## EDUCATION

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### University of Houston

*Ph.D. in Computer Science* | **GPA: 3.835**

Houston, TX

*Aug 2022 – Present*

### Hanoi University of Science and Technology

*B.S. in Applied Mathematics and Informatics* | **Talent Honors Program**

Hanoi, Vietnam

*Sep 2017 – Jul 2021*

## SKILLS

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**Programming:** Python, C, C++, MATLAB, R, MySQL, PHP, HTML

**Frameworks & Tools:** PyTorch, Tensorflow, OpenCV, scikit-learn, CUDA, Blender, Git, Linux, API, ONNX, Docker

## EXPERIENCE

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### University of Houston - Quantitative Imaging Lab

*Graduate Research Assistant*

Houston, TX

*Aug 2022 – Present*

- Organization: Quantitative Imaging Lab; Supervisor: Dr. Shishir Shah, Chair of Computer Science Department.
- Conduct research on Person Re-Identification, Face Recognition, Continual Learning and Generative Models.

### Grooo International JSC

*AI Engineer*

Hanoi, Vietnam

*Feb 2021 – May 2022*

- Developed AI-driven models for mobile apps; Collaborated with development team for deployment and testing.

### Mathematical Optimization for Decisions Lab (MODL)

*Research Assistant*

Hanoi, Vietnam

*Aug 2020 – Feb 2022*

- Conducted research in Financial Portfolio Selection using Multi-objective Optimization.
- Performed web scraping and exploratory data analysis on financial data; Mentored freshmen research group.

## PROJECTS

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### Long-term Person Re-Identification (ReID)

- Preprocess, augment and reconstruct 3D human models on large-scale ReID datasets using OpenCV and Blender.
- Design a Joint 3D Human Shape and Gait model for Lifelong Cloth-changing ReID; Implement using PyTorch.

### Face Recognition at Long Distance

- Assess image quality on Brisque; Design a pose-guided model based on ArcFace for better generalizability.
- Retrain modified model using PyTorch Lightning; Evaluate CMC & Verification Accuracy on DroneFace dataset.

### Fetal ECG Extraction using GANs

- Analyze, filter and transform ECG data; Develop GAN-based model; Benchmark over AutoEncoder-based models.

### Automated IDs and Business Cards Extractor

- Tested OCR methods; Implemented multilingual BERT model, achieved accuracy of 90% in Korean and Japanese.
- Packaged source code into Docker Image and wrote API using FastAPI for deployment.

### Automated Business Cards and Invoices Extractor

- Scraped business card and invoices image data from web; Performed texture analysis tasks namely named entity identifiers collection, text translation from Korean and Japanese to English using Python and BeautifulSoup.
- Stored processed data into database; Built Deep Learning-based models for automated extraction.

### Phone Spammers Detection

- Explored and engineered data; Developed a Graph-based model to detect spammers; Wrote paper manuscript.

## PUBLICATIONS

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1. Vuong, D.N., Duyen, N.K., Hai, N.M. and Duy, B.K. (**in-press**) Multicriteria Portfolio Selection with Intuitionistic Fuzzy Goals as a Pseudoconvex Vector Optimization. *arXiv preprint arXiv:2305.00172*. [LINK](#)
2. Vuong, N.D. and Thang, T.N. (2022) Optimizing over Pareto Set of Semistrictly Quasiconcave Vector Maximization and Application to Stochastic Portfolio Selection. *Journal of Industrial and Management Optimization*, 19(3), 1999-2019. [LINK](#)
3. Thang, T.N. and Vuong, N.D. (2021) Portfolio Selection with Risk Aversion Index by Optimizing over Pareto Set. In: Intelligent Systems and Networks. ICISN 2021. Lecture Notes in Networks and Systems, 243, 225-232. [LINK](#)

## HONORS AND AWARDS

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**Cullen Graduate Student Success Fellowship:** Awarded by College of Natural Sciences and Mathematics, UH.

**Best Thesis Award:** Awarded by School of Applied Mathematics and Informatics, HUST.

**FPT Young Talents Scholarship:** Awarded by FPT Group for contribution to undergraduate research community.

## ACTIVITIES

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**Computer Science Graduate Student Association (CSGSA)**

Houston, TX

*Secondary Student Officer*

*Oct 2022 – Present*

- Coordinated with Center for Student Involvement to revive CSGSA after 2 years being inactive due to Covid-19.