

Thanh M. Vu

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Education

Ph.D. in Computer Science, University of North Carolina at Chapel Hill, Chapel Hill, NC. 8/2018 – Exp. 5/2023

- Coursework: Semi-Supervised Learning, Computational Photography, Generative Methods, Parallel Computing

B.S. in Computer Science, Minor in Mathematics, Lafayette College, Easton, PA. GPA: 3.97/4.00. 8/2014 – 5/2018

Experience

Graduate Research Assistant — UNC CHAPEL HILL

8/2018 – Present

ADVISER: DR. JAN-MICHAEL FRAHM

Chapel Hill, NC

- **Real-Time CV**: Developing real-time computer vision and machine learning for resource-constrained applications, focusing on autonomous driving. Currently investigating temporal, multi-frame problems such as 3D scene flow estimation.
- **Efficient DL**: Designed real-time adjustable-size CNNs that allow fine-grained control over the speed-accuracy trade-off depending on the available budgets during inference and achieved 78% better performance than prior methods.
- **Collaborations**: History-accuracy trade-off and schedulability of object tracking. Throughput, latency, and accuracy of object detection in embedded platforms. Versatile convolution operations for spherical images.

Augmented Reality Engineer Intern — LENOVO

6/2020 – 7/2020

ORG: CLOUD & SOFTWARE ENGINEERING LAB

Remote

- Researched and developed image tracking-based enterprise AR applications using Unity on the ThinkReality A6 headset.

Research Assistant — LAFAYETTE COLLEGE

5/2015 – 5/2018

ADVISERS: DR. AMIR SADOVNIK & DR. CHUN WAI LIEW

Easton, PA

- **Visual Similarity**: Proposed and hierarchically learned aesthetic compatibility of fashion items using Triplet networks.
- **Object Detection**: Designed a poster retrieval system that extended a deep learning-based object detection framework.
- **Mobile Recognition**: Developed on-device building recognition for mobile platforms using OpenCV's feature extraction.

Software Development Engineer Intern — AMAZON

5/2017 – 8/2017

ORG: DIGITAL BOOK STORE

Seattle, WA

- Implemented a Kindle app's feature that allows 100M+ users access to more search results with 50% fewer clicks.

Publications

- **T Vu**, M Eder, T Price, JM Frahm. Any-Width Networks. CVPRW'20.
- T Amert, M Yang, S Nandi, **T Vu**, JH Anderson, FD Smith. The Price of Schedulability in Multi-Object Tracking: The History-vs.-Accuracy Trade-Off. ISORC'20.
- M Yang, S Wang, J Bakita, **T Vu**, FD Smith, JH Anderson, JM Frahm. Re-thinking CNN Frameworks for Time-Sensitive Autonomous-Driving Applications: Addressing an Industrial Challenge. RTAS'19.
- **T Vu**. Learning Visual Compatibility: An Improved Method for Visual Compatibility Embedding. Undergraduate Thesis '18.
- A Sadovnik, W Gharbi, **T Vu**, A Gallagher. Finding your lookalike: Measuring face similarity rather than face identity. CVPRW'18.
- **T Vu**, D Pirois, A Sadovnik. How your phone recognizes your home: An investigation of mobile object recognition. NCUR'16.

Skills & Info

- **Programming Languages**: Python, Java, C++, C, C#, HTML, CSS/SASS, JavaScript, SQL, Matlab, R.
- **Technologies**: PyTorch, NumPy, Caffe, OpenCV, Unity, Android, Confluence, Jira, MVC, JSP, Git, Latex.
- **Leadership**: VP, TEDxLafayette (2016 – 2017). Project Lead: AI Case Studies (2017), K-12 Database (2016), MiniFacebook (2016).
- **Honors**: PBK (2018), PME (2018), UPE (2017), 2nd Place ACM ICPC Mid-Atlantic (2016), Lafayette EXCEL Scholar (2015 – 2017).
- **Teaching & Tutoring**: CS Tutor (2015 – 2018), Calculus Tutor (2016 – 2018), CS Teaching Assistant (2016 – 2017).