HAI PHAN

Homepage ◇ Google scholar ◇ Github

5733 Phillips Ave, Apt. 2, Pittsburgh, PA 15217

m: (+1)2177502413 ◇ Personal: pthai1204@gmail.com ◇ CMU email: haithanp@andrew.cmu.edu

EDUCATION

Carnegie Mellon University (CMU), Pittsburgh, PA, USA   *January 2019 - Present*
PhD student, Electrical and Computer Engineering (ECE)

Carnegie Mellon University (CMU), Pittsburgh, PA, USA   *January 2019 - May 2020*
Master of Science, Electrical and Computer Engineering (ECE)

University of Science, Ho Chi Minh City, Vietnam   *Sept 2009 - 2015*
Bachelor of Science, Advanced Program In Computer Science (**GPA**: 3.61 / 4.0)
Thesis: Developing Smart Environment with VR and AR. (Mark: 4.0/4.0)

TECHNICAL STRENGTHS

Programming Languages	C++, Objective-C, Python, Matlab
Deep Learning frameworks	Caffe, Tensorflow, Pytorch, MXNet, CUDA programming

WORK EXPERIENCE

Cylab biometrics, Carnegie Mellon University   Jan, 2019 - Present
Research Associate

· **Efficient deep learning for mobile devices**: Researched and developed facial recognition on devices (iOS/Android /JetsonTX/Xavier) (CMU face detection and matching C++ SDK). Improved the speed of inference $8\times$ in GPU and achieved **8-10 fps** on iPhone 7, **125 fps** and **20 fps** on Xavier GPU and CPU respectively.
Languages/Technical usage: C++, Python, Pytorch, Caffe, MXNet, Objective-C, OpenCV

Cylab biometrics, Carnegie Mellon University   June, 2017 - June, 2018
Research Associate

· Developed and maintained CMU facial recognition C++ SDKs, delivering software libraries to some agencies.
· **3D Face Pose Estimation**: Researched and developed 3D facial landmarking for facial alignment algorithm. To wrap 3D face, a 3D Thin Plate Spline (TPS) Transformers are implemented by estimating parameters through deep neural networks. 3D facial data on 300W-LP, AFLW, and AFLW2000-3D are manually generated for 3D training. The proposed method outperformed previous methods when achieved Normalized Mean Error of **3**%.
Languages/Technical usage: C++, Python, Caffe, OpenCV, Open GL.

Axon AI, Taser/Axon International   Jan, 2017
Research Engineer

· **Machine Vision**: Developed real-time correlation filter object tracking C++ SDK, following movement of people/objects. Achieved the speed of **30 fps** on iPhone 5,6 with very high accuracy.
Languages/Technical usage: C++, Objective-C, OpenCV.

Fossil   Jan, 2016 - Dec, 2016
Research Engineer

· **Video-based biometric signal processing**: Developed non-intrusive heart rate estimation algorithm in C++ SDK using face/finger video recorded by an ordinary camera.
Languages/Technical usage: C++, Objective-C, OpenCV.

Misfit Wearables   May, 2014 - 2016
Software Engineer

· Developed iOS Misfit app for millions of users worldwide.
Languages/Technical usage: BLE, Objective-C.

· **Data sensor streaming** Developed a API to streaming data to record human activities. Calibration Data are obtained through many sensors such as gyroscope, Accelerometer, and Magnetometer. The streaming process can last each to **16** hours and data are pushed on server through a Web API. In addition, stream data is used to create 3D human body simulation in the sport for research.
Languages/Technical usage: C++, BLE, Objective-C, OpenCV, OpenGL.

PUBLICATIONS

H. Phan, Z. Liu, D. Huynh, Z. Shen, K. Cheng and M. Savvides, *Binarizing MobileNet via Evolution-based Searching*, CVPR 2020 (acceptance rate: 22%). cvpr2020

H. Phan, D. Huynh, Y. He, M. Savvides, and Z. Shen, *MoBiNet: A Mobile Binary Network for Image Classification*, in WACV 2020. wacv20

Zhiqiang Shen, Honghui Shi, Jiahui Yu, **Hai Phan**, Rogerio Feris, Liangliang Cao, Ding Liu, Xinchao Wang, Thomas Huang, Marios Savvides. Improving Object Detection from Scratch via Gated Feature Reuse 30th British Machine Vision Conference (BMVC), 2019. bmvc2019

An T. Duong, **Hai T. Phan**, Nam Do - Hoang Le, Son T. Tran. *Hierarchical Approach for Handwritten Digits Recognition Using Sparse Auto-encoder*s. In Springer Conference of Advanced Soft Computing 2014. springer

Hai T. Phan, An T. Duong, Nam Do - Hoang Le, Thai Son Tran . *Hierarchical Sparse Auto-encoder Using Linear Regression-based Feature in Clustering for Handwritten Digit Recognition*. In 8th International Symposium on Image and Signal Processing and Analysis (ISPA) - 2013. (**Oral Presentation**) ieee