KHUONG N. NGUYEN

ABOUT ME

Machine Learning Engineer with extensive research and practical experience in **Artificial Intelligence**, **Machine Learning**, and Edge Device Systems. Proficient in building and deploying AI solutions in **Wireless Communications**, **Wireless Sensing**, and **Wi-Fi Technologies**. Skilled in frameworks like **TensorFlow** and **PyTorch**, with a strong ability to manage projects independently and deliver impactful results.

EDUCATION

Ph.D. in Computer Science
Texas A&M University
College Station, TX, USA
Aug 2014 - Dec 2019
Dissertation: *Perception and Action: From Sensorimotor Learning to Intelligent Tool-Use Behavior*
Advisor: *Prof. Yoonsuck Choe*

B.Sc. in Computer Engineering
University of Texas, Arlington
Arlington, TX, USA
Aug 2011 - May 2014

LINKS

LinkedIn
Google Scholar
GitHub

TECHNICAL SKILLS

Programming - Python, Java, C/C++, JavaScript.

Libraries - Tensorflow, Pytorch, Keras, Scikit-learn, Numpy, OpenCV.

Relational Database - SQL, MySQL.

Mobile Development - Android (system & user app).

Version Control - Git, P4V, DVC.

ORGANIZATIONS

- Association for Computing Machinery - Member
- IEEE & IEEE Computational Intelligent Society - Member

EXPERIENCE

Samsung Research America - Staff Research Engineer II 08/2024 - Present
Plano, Texas

Samsung Research America - Staff Research Engineer I 03/2022 - 08/2024
Plano, Texas

Samsung Research America - Senior Research Engineer 08/2018 - 03/2022
Richardson, Texas

- Designed and deployed cutting-edge AI solutions enhancing wireless communication and wireless sensing.
- Authored research papers and drafted patents for innovative AI implementations.
- Notable projects:
  - Intelligent Wi-Fi
    - Developed an AI-powered internet traffic analyzer for Samsung's flagship smartphones, delivering up to 99% accuracy in identifying diverse network service types. This innovation enhanced user experience by enabling intelligent traffic management and optimizing resource allocation for improved device performance.
  - mmWave Radar Sensing
    - Designed a gesture recognition system using Qualcomm's 802.11ay chipset mmWave radar sensor. Received Q4 2019 - Samsung Mobile Communications Division CTO Award.
    - Developed a finger tracking system relative to the mobile device screen using a 60Ghz mmWave radar sensor.
  - Ultra-wideband (UWB) Technologies
    - Engineered a D2D (device-to-device) 3D Field of View identification system that is useful for various applications ranging from data transferring to in-door localization. Adopted by Samsung Galaxy Flip and Fold.

Samsung Research America - Research Intern 05/2018 - 08/2018
Richardson, Texas

- Supported senior engineers in the research and development of various projects including Wi-Fi connection management and Wi-Fi localization.

SELECTED PUBLICATIONS & PATENTS

Publications

- A. Ali, P. Parida, V. Va, S. Ni, K. N. Nguyen, B. Ng and C. Zhang, *"End-to-End Dynamic Gesture Recognition Using MmWave Radar."* in IEEE Access, vol. 10, pp. 88692-88706, 2022, doi: 10.1109/ACCESS.2022.3199411.
- Khuong N Nguyen, Anum Ali, Jianhua Mo, Boon Loong Ng, Vutha Va, Jianzhong Charlie Zhang, *"Beam management with orientation and RSRP using deep learning for beyond 5G systems."* 2022 IEEE International Conference on Communications Workshops (ICC Workshops). IEEE, 2022.
- W. Qiu, G. Chen, K. N. Nguyen, A. Sehgal, P. Nayak and J. Choi, *"Category-Based 802.11ax Target Wake Time Solution."* in IEEE Access, doi: 10.1109/ACCESS.2021.3096940.

Patents

- Khuong N. Nguyen, Guanbo Chen, Hao Chen, Abhishek Sehgal, Rebal Al Jurdi, *"System and method for detecting network services based on network traffic using machine learning."* US Patent 12040914.
- Wenxun Qiu, Hao Chen, Matthew Tonnemacher, JUNG In-Sick, Jihoon Sung, Khuong N Nguyen, Abhishek Sehgal, Jianhua Mo, Jianzhong Zhang, Junyeop Jung, John Wensowitch, Eric Johnson, PARK Namjoon, *"Method and apparatus for intelligent WiFi connection management."* US Patent 11284473.
- Khuong N. Nguyen, W. Qiu, H. Wang, B. Ng, *"Methods for Gesture Recognition and Control."* US Patent 11442550.