Khang M. Nguyen

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RESEARCH INTERESTS

Robotic Grasping, Robot Perception, Cognitive Architecture.

EDUCATION

University of Texas at Arlington August 2020 – May 2024
B.Sc. (Hons.) in Computer Science, Minor in Bioengineering & Mathematics Arlington, TX

Cumulative GPA: 3.82/4.00 **Major GPA:** 3.90/4.00 **Dean's List:** 5 semesters from Spring 2021 to Spring 2023.

Coursework: Advanced Linear Algebra, Algorithms & Data Structures, Artificial Intelligence, Autonomous Robots, Computer Vision, Engineering Probability & Statistics, Machine Learning, Medical Imaging, Multivariable Calculus, Neural Networks & Deep Learning, Signal Processing, Statistical Inference, Operating Systems, and Unmanned Vehicle Systems.

Thesis: In-progress *Advisor: Dr. Manfred Huber*

RESEARCH ACTIVITIES

Conference Proceedings:

[5] **K. Nguyen**, T. Dang, and M. Huber. "Online 3D Deformable Object Classification for Mobile Cobot Manipulation". In *Proceedings of the International Symposium on Robotics (ISR)*, Stuttgart, Germany, September 2023.
▷ Paper | Code | Demo

[4] T. Dang, **K. Nguyen**, and M. Huber. "Multiplanar Self-Calibration for Mobile Cobot 3D Object Manipulation using 2D Detectors and Depth Estimation". In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, MI, October 2023.
▷ Paper | Code | Demo

[3] T. Dang, **K. Nguyen**, and M. Huber. "*ExtPerFC*: An Efficient 2D and 3D Perception Software-Hardware Framework for Mobile Cobot". arXiv, June 2023.
▷ Paper | Code | Demo

[2] T. Dang, **K. Nguyen**, and M. Huber. "*PerFC*: An Efficient 2D and 3D Perception Software-Hardware Framework for Mobile Cobot". In *Proceedings of the International FLAIRS Conference (FLAIRS)*, Clearwater Beach, FL, May 2023.
▷ Paper | Code | Demo

[1] T. Dang, T. Tran, **K. Nguyen**, T. Pham, N. Pham, T. Vu, and P. Nguyen. "*IoTree*: A Battery-free Wearable System with Biocompatible Sensors for Continuous Tree Health Monitoring". In *Proceedings of the ACM International Conference on Mobile Computing and Networking (MobiCom)*, Sydney, NSW, Australia, October 2022.
▷ Paper | Code | Demo

Abstracts & Poster Presentations:

[2] **K. Nguyen** and W.J. Beksi. "An Autonomous Indoor Personal Robot with Real-Time Object Detection" at *the Annual UTA Innovation Day*, Arlington, TX, April 2023.
▷ Poster | Code

[1] H. Affleck, **K. Nguyen**, K. Brown, and Y. Liao. "The Use of Social Media Advertisements to Recruit a Diverse Sample of Hispanic and Black Women for a Virtual Focus Group Study" at *the American Public Health Association Annual Meeting and Expo (APHA)*, Boston, MA, December 2022.

Conference Reviewing:

- *The 19th IEEE International Conference on Automation Science and Engineering* (CASE '23).
- *The 20th IEEE International Conference on Ubiquitous Robots* (UR '23).

Professional Affiliations:

- *IEEE Member* (2023 – Present)
- *ACM Member* (2023 – Present)

RESEARCH EXPERIENCE

Learning and Adaptive Robotics Lab August 2022 – Present
Undergraduate Research Assistant Arlington, TX

Robotic Vision Lab October 2022 – May 2023
Undergraduate Research Assistant Arlington, TX

Wireless and Sensor Systems Lab August 2021 – August 2022
Undergraduate Research Assistant Arlington, TX

OUTREACH ACTIVITIES

UTA Senior Design Team — September 2023 – Present
Team Leader — Arlington, TX

HackMIT Hackathon — October 2022
Participant — Boston, MA

GaTech IEEE RoboTech Hackathon — April 2022
Team Leader/Participant — Atlanta, GA

Wolfram High School Summer Research Program — June 2019 – July 2019
Participant — Boston, MA

TEACHING EXPERIENCE

OurCS@DFW Workshop: CPS-Health — February 2022

UTA Department of Mathematics — February 2022 – May 2022

ACADEMIC AWARDS & HONORS

UTA Research Experiences for Undergraduates Sponsorship — October 2022
Sponsored by UTA COE and UTA Robotic Vision Lab

Sponsorship Award for Assistive Technologies at HackMIT — October 2022

Top 8 of GaTech IEEE RoboTech Hackathon — April 2022

2nd Prize in Body Track & 3rd Prize in Electrical Track — April 2022
Awarded by GT IEEE RoboTech Hackathon Committee

UTA Freshman Distinction Roll Recognition Recipient — December 2020

UTA Maverick Academic Scholarship Recipient — August 2020

AP Scholar with Distinction Recipient — July 2020
Awarded by College Board

Honorable Mention of the 14th Geometrical Olympiad in Honor of I. F. Sharygin — August 2018
Ranked 10th over 49 participants in the Final Round

Honorable Mention of Singapore Mathematical Olympiad Open — June 2018

Bronze Medal of Vietnamese Mathematical Youth Talent Search — April 2018
Ranked 13th over 198 participants in Grade 10

Bronze Ruler of the 4th Iranian Geometrical Olympiad — September 2017
Ranked 4th nationally - Ranked 57th internationally

Second Prize of the Municipal Mathematical Competition — March 2017

TECHNICAL COMPETENCIES

Coding & Software: Python, C/C++, MATLAB, Mathematica, HTML/CSS, JS, Java, and ROS.
Designing & Fabrication Tools: Arduino, SOLIDWORKS, Prusa, Formlabs, NVIDIA Jetson, and Raspberry Pi.

PROFESSIONAL REFERENCES

Dr. Manfred Huber, Ph. D.
Professor, Dept. of Computer Science & Engineering
Director, Learning and Adaptive Robotics Lab
The University of Texas at Arlington
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Dr. Vassilis Athitsos, Ph. D.
Professor, Dept. of Computer Science & Engineering
Director, Vision-Learning-Mining Lab
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Dr. William Beksi, Ph. D.
Assistant Professor, Dept. of Computer Science & Engineering
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