

Khang M. Nguyen

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RESEARCH INTERESTS

Robotic Grasping, Robotic 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 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

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, Baden-Wurttemberg, 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)

OUTREACH ACTIVITIES

UTA Senior Design Team Team Leader	September 2023 – Present Arlington, TX
HackMIT Hackathon Participant	October 2022 Boston, MA
GaTech IEEE RoboTech Hackathon Team Leader/Participant	April 2022 Atlanta, GA
Wolfram High School Summer Research Program Participant	June 2019 – July 2019 Boston, MA

TEACHING EXPERIENCE

OurCS@DFW Workshop: <u>CPS-Health</u>	February 2022
UTA Department of Mathematics	February 2022 – May 2022

ACADEMIC AWARDS & HONORS

UTA Research Experiences for Undergraduates Sponsorship Sponsored by UTA COE and UTA Robotic Vision Lab	October 2022
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 Awarded by GT IEEE RoboTech Hackathon Committee	April 2022
UTA Freshman Distinction Roll Recognition Recipient	December 2020
UTA Maverick Academic Scholarship Recipient	August 2020
AP Scholar with Distinction Recipient Awarded by College Board	July 2020
Honorable Mention of the 14th Geometrical Olympiad in Honor of I. F. Sharygin Ranked 10th over 49 participants in the Final Round	August 2018
Honorable Mention of Singapore Mathematical Olympiad Open	June 2018
Bronze Medal of Vietnamese Mathematical Youth Talent Search Ranked 13th over 198 participants in Grade 10	April 2018
Bronze Ruler of the 4th Iranian Geometrical Olympiad Ranked 4th nationally - Ranked 57th internationally	September 2017
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 huber@cse.uta.edu	Dr. Vassilis Athitsos, Ph. D. Professor, Dept. of Computer Science & Engineering Director, Vision-Learning-Mining Lab The University of Texas at Arlington athitsos@uta.edu
Dr. William Beksi, Ph. D. Assistant Professor, Dept. of Computer Science & Engineering Director, Robotic Vision Lab The University of Texas at Arlington william.beksi@uta.edu	Tuan Dang, M. S. Ph. D. Student, Dept. of Computer Science & Engineering Learning and Adaptive Robotics Lab The University of Texas at Arlington tuan.dang@uta.edu

Last updated: November 11, 2023.