

Arika Khor

Interest in robotics, tomographic path planning, full-stack development, and software design theory.

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Education

Expected B.S. Fall 2026 , M.S. 2027 | **The University of Oklahoma**
B.S. / M.S. Computer Science

Experience

June 2025 - Current	Construction Innovation and Analytics Lab <i>Researcher</i> <ul style="list-style-type: none">Implemented a self-driving 4-wheel differential drive robot which would navigate to multiple waypoints in a known dynamic construction site.Used Nav2 and ROS2 with multi-sensor fusion SLAM using a zed2i and Unitree LIDAR. Used robot_localization for ekf localization with 15d state estimation nodes.
Aug 2025 - Current	Autonomous Interactive Robotics Lab <i>Researcher</i> <ul style="list-style-type: none">Passive Reinforcement learning visual-only navigation project, using Nvidia Isaac Sim to train the model.Created entire codebase for model autonomous race car vehicles with ROS2. Additionally made an example waypointer with this repo.
Sept 2022 - July 2024	Singapore Armed Forces <i>Team Lead for Curriculum Development</i> <ul style="list-style-type: none">Performed data analysis and cleaning on Cadet scores using pandas.Led a project to develop code to migrate from obsolete excel sheets that were used in trainee scoring.
Jan 2020 - Dec 2020	GameDuchy Game Development Company <i>Assistant Community Relations Manager</i> <ul style="list-style-type: none">Planned, organised and executed regular in-game community wide events, working with various departments to successfully implement these events.Designed and implemented custom chat bot to obtain item data.

Leadership Roles

Aug 2024 - Current	Sooner Competitive Robotics <i>Member (24 - 25), Treasurer (25 - Current)</i> <ul style="list-style-type: none">Learnt about HSV color thresholding for object detection and localization.Setup and managed Docker environments. Overhauled UI to add a live remote logging viewer, configuration manager, and overhead map. Overhauled data transfer from web socket to WebRTC request.
Aug 2016 - May 2022	Scouting America <i>Various Leadership Positions</i> <ul style="list-style-type: none">Eagle Scout Project: Designed and built several weather radio antennas by organizing a large group to mass-produce them. They were then given to the city's emergency coordinator to distribute to public service buildings. This project was covered in the normantranscript (article here).
Aug 2024 - Current	Sooner Competitive Programming Team <i>Team Captain</i> <ul style="list-style-type: none">Covered a variety of Competitive Programming topics as well as tackling unsolved kattis problems.

Projects

2025 - Current	Designing a Control System for Autonomous Cognition of Latent Hazards in Active Construction Sites <i>Paper, Abstract accepted to Smart and Sustainable Built Environment Journal</i>
Aug 2022 - Present	Facial-Net Classifier <i>Facial Recognition Project</i> <ul style="list-style-type: none">Proof of concept product all built locally to raise awareness about the link between academia and policy.Real time biometric surveillance dashboard.Captures live video then detects and matches faces in a crowd attempting to either match or generate a new face with mongodb. Comes with documentation

Technical & Soft Skills

- Programming: Advanced Java (Spring, Thymeleaf), C++, C#, Java Script, Python, Bash
- Web: LaTeX, HTML5, CSS3, Bootstrap, Azure, AWS, SQL, MongoDB, Bun JS, React, WebRTC Concepts
- Tools & Concepts : ROS2, Pub/Sub Architecture, Docker, Jira, Jenkins , Git, Microsoft Office Suite, Agile, Scrum, tailscale.
- Soft Skills: Leadership, Interdisciplinary Teamwork, Communication, Problem Solving, Project management.