

Arika Khor

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

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Education

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| Expected B.S. Fall 2026 | The University of Oklahoma B.S. Computer Science |
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Experience

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| 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">Currently attached to a Passive Reinforcement learning visual-only navigation project, using Unity to train the model. |
| Sept 2022 - July 2024 | Singapore Armed Forces <i>Team Lead for Curriculum Development</i> <ul style="list-style-type: none">Performed data analysis on Cadet scores using pandas with data that was later presented in a senior management meeting.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

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| 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 Capitan</i> <ul style="list-style-type: none">Covered a variety of Competitive Programming topics as well as tackling unsolved kattis problems. |

Projects

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| 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 | FFXIV-Wiki-Fetcher <i>REST API</i> <ul style="list-style-type: none">REST API that collect data from web scrapers, formatted into a database, then neatly outputted on a website based on user query using fuzzy searching.Made using the Spring framework and fuzzy searching, react and tailwind for frontend, and mongoDB as the database. |

Technical & Soft Skills

- Programming: Advanced Java (Spring, Thymeleaf), C++, C#, JavaScript, 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.