

Zongnan Chen

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Career Objective

Dedicated engineer with a passion for software development and a focus on robotics, automation, aerospace, and real-world applications. Committed to a full-stack developer role to create innovative solutions at the intersection of technology and engineering. Strong emphasis on building a holistic engineering and design mindset.

Education

Master of Science (M.S.)

San Jose State University

- **Major: Aeronautical Engineering/Aircraft Design**

Graduated May 2023

San Jose, CA

GPA: 4.0

Certificate

IBM Full-Stack Software Developer Certificate

- Django Application Development with SQL and databases
- Web Development
- AI Application Development with Python and Flask
- Front-end Application with React

PROFESSIONAL EXPERIENCES

Co-Founder (Mechanical/Software Developer)

August 2020 - April 2022

AuroraNautics (Stealth Mode Start-up)

- Designed and developed software and mechanical designs of cutting-edge infrastructure solutions for unmanned aerial vehicle concepts to merge in advanced air mobility networks
- Led software project for Hovergames 2 from NXP, developed software to enhance drone sensing and perception capability using an open-source neural network model (Honors Award).
- Enhanced software architecture for solving communication and integration of robotic system using tools such as Gazebo, and QGroundControl on Linux to operate ROS and PX4 build
- Developed software support for merging gimbal/camera onto drone using C++ and Python

Robotics Software Engineer (Engineer I)

May 2022 - Oct. 2024

Dexterity Inc.

- Design and develop robotic arm systems in various warehouse applications, including packages, and food handling environments.
- Design and develop features to enhance systems' performance and match key milestones across multiple product lines
- Customer support for production issues, including scrub logs, bug fixes, and testing in production environment applications.
- Worked with teams to identify key performance bottlenecks, and develop solutions.

- Oversee commissioning issues and participate in deployment projects across multiple product lines. Track and maintain projects with JIRA and Confluence.
- Test and validate software releases and system performance.

ENGINEERING PROJECTS

E-Commerce Web Development for Floral Shop

- Scoped, designed, and developed a Django-based fully functioning web application for an E-Commerce site.
- Drafted and designed key website features in HTML, JS, and Bootstrap CSS
- Front-end web development for handling requests
- Back-end databases query, authentication, requests/response, and algorithms.
- Setup and Hosting Website in a Cloud Computing Environment

Dynamics and Control Analysis of In-Flight Wing Damage Recovery Using Morphing Wing (Master's Research)

August 2022 - May 2023

- Researched and designed an innovative concept for fin-flight damage recovery using morphing wings.
- Derived, and simulated the full-body aircraft dynamics. Analyzed the behavior of the damaged and morphed aircraft under different conditions.
- Proposed and provided a feasible application of the morphing wings in wing damage scenarios.
- Utilized various industry-leading software such as MATLAB, Solidworks, XFLR5, etc.

ENGINEERING SKILLS

- **Software Skills/Knowledge:** Python, C++/C, Java, Linux/Windows OS, Git, Docker, Kubernetes, SQL, fast API, gRPC, Django, Flask, React, HTML, CSS, Helm, Jinja, Dynamic Programming, microservice infrastructure.
- **Aerospace/Robotics:** Xfoil, XFLR5, MATLAB Simulink, knowledge of aircraft design, understanding of dynamics and control, Ansys, ROS, Gazebo, QGroundControl.

AWARDS

- **MSAE Graduate of the Year Award** - San Jose State University, Class of 2023

Websites

- **One Page Portfolio** - https://khonsut.github.io/Derek_portfolio_page/
- **LinkedIn:** <https://www.linkedin.com/in/derek-chen-26685a13a/>