

Chen Qi Jing

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Education

Nanyang Technological University (NTU), Singapore

School of Mechanical and Aerospace Engineering (MAE)

Doctor of Philosophy, Robotics

Aug 2021 – Present

- Research Title: Toward Robust Robotic Interaction with Deformable Linear Objects: Modeling, Control, and Shape-based Force Estimation
- Funded by: Nanyang President Graduate Scholarship

Bachelor of Aerospace Engineering

Aug 2017 – Jun 2021

- Honours (Highest Distinction) | GPA: 4.9/5
- Dean's List (Academic Year 2017/18)
- Final Year Project: Geometric Optimization of a Coupled Vane Compressor – using Genetic Algorithm and Thermodynamics Simulation
- NTU Hall 13 Dance Team, Vice-Captain
 - Lead and choreographer for Annual Interhall Dance Competition 2019
 - Conducted structured classes tailored for both beginner and advanced dancers

Delft University of Technology (TU Delft), Netherlands

Aug 2019 – Feb 2020

- Exchange Semester – Aerospace Engineering (as part of NTU B.Eng. program)

Temasek Junior College

Jan 2013 – Dec 2014

- GCE 'A' levels Certificate
- Orientation Group Leader
 - Led freshmen orientation, promoting engagement and community
 - Coordinated events to ensure smooth program execution

Work Experience

GE Aviation Engine Services Pte Ltd, Intern

Feb 2020 – Jun 2020

- Validated Direct Metal Laser Melting research and adoption with the Emerging Technologies team for use in engine compressor maintenance and repair
- Fabricated and conducted analysis on 3D-printed compressor blade repair samples
- Supported complementary repair technologies (e.g., Thermal Spray) to study overall repair process mechanisms
- Awarded the Certificate of Distinction by NTU for the Professional Internship

Republic of Singapore Air Force, Air Warfare Officer (C3)

Apr 2016 – Mar 2017

- Appointed as the Squadron Environmental Control Officer with focus on maintaining safe and compliant working conditions
- Earned Advanced Certificate in Team Leadership, demonstrating expertise in leadership and team dynamics
- Trained rigorously in numerous air traffic control positions
- Contributed to airbase readiness by supporting operational continuity and squadron coordination

Research Interests and Publications

Research Interests: Motion planning and control, deformable linear object modeling and manipulation, optimization-based control, simulation, computer vision, reinforcement learning

Submitted Publications:

- **Q.J. Chen, T. Bretl, Q.-C. Pham** "*Accurate Simulation and Parameter Identification of Deformable Linear Objects using Discrete Elastic Rods in Generalized Coordinates.*" IROS 2025 (Accepted).
- **Q.J. Chen, S. Shan, Q.-C. Pham** "*Robotic Manipulation of a Rotating Chain with Bottom End Fixed.*" IROS 2025 (Accepted).
- **Q.J. Chen, Q.-C. Pham** "*Joint-based Modeling of Partial Quasistatic Discrete Elastic Rods for Robotics Simulation.*" ICRA 2026 (Under review).
- **Q.J. Chen, S. Shan, Q.-C. Pham** "*Estimating Force Interactions of Deformable Linear Objects from their Shapes.*" ICRA 2026 (Under review).

Projects

Aerospace Accreditation Automation System (Ongoing) Aug 2025 – Present

- Implemented LLM-based ranking of search results, PDF/HTML summarization, and gap identification against NTU's programme
- Automated web scraping and data extraction pipeline using AI to compare NTU's Aerospace Engineering programme with global universities and industry needs
- Built structured JSON outputs from curricula, syllabi, research labs, and industry reports using local LLMs (Ollama - llama3.1:8b)
- Developed modular Python stack using requests, BeautifulSoup, Playwright, pdfminer, and custom caching/orchestration utilities

Skills and Other Interests

Written and Spoken Languages: English and Mandarin

Programming; Software Skills: Python, C++, MATLAB, Fortran; MuJoCo, Solidworks, Stable Baseline, Ollama, Stable Diffusion, Grounding DINO

Interests: Travel, Boulderling, Dance, Reading, and Movies

Find Out More

Website/Github: <https://qj25.github.io/cv-landing/>

LinkedIn: <https://www.linkedin.com/in/qi-jing-chen-5204261b8/>