Zoe King

San Jose, CA | +1 4084774521 | zoe_king@alumni.brown.edu | www.zoeking.net | www.linkedin.com/in/zoe-king/

I am a highly motivated engineer with a strong background in fluid mechanics, aerodynamics, and experimental research, eager to apply my skills to solve complex engineering challenges. My passion lies in designing and optimizing high-performance systems across aerospace, aeronautics, propulsion, and energy applications. I thrive in fast-paced, hands-on environments where innovation and problem-solving drive progress. With interests spanning aerodynamics, space exploration, marine systems, and design, I seek opportunities that will allow me to grow, contribute meaningfully, and expand my expertise in industry. I am open to relocation, both domestically and globally, to pursue the right opportunity.

TECHNICAL SKILLS

Matlab, Wood & Metal-working, 3D printing/Laser cutting, Laser safety and Operation, Wind Tunnel Operations, CAD (Autodesk Fusion), Adobe Illustrator
Certifications: California State Boater Certification, PADI Advanced Open Water

WORK EXPERIENCE

Breuer Lab - Brown University: *Research Interest: Nanoscale fluid dynamics on elastic porous materials.* Providence, RI
Graduate Research Engineer Sep 2023 – May 2024

- Conduct wind tunnel experiments and analyze data to investigate nanoscale fluid dynamics on elastic porous materials.
- Utilize point-tracking techniques and Particle Image Velocimetry(PIV) to study complex fluid behaviors.
- Perform the post-processing and data analysis for the flow field and force data collected.

Socha Lab - Virginia Tech: *Research Interests: Organismal biomechanics & bio-inspired engineering* Blacksburg, VA
Undergraduate Research Engineer May 2022 - Feb 2023

- Collaborated with 6 researchers investigating the biomechanics of flying snakes and related species at the Universiti Brunei Darussalam.
- Headed and designed a research project on the tongue-sticking behavior of arboreal colubrids, contributing to the understanding of organismal biomechanics.
- Presented research findings to approximately 100 guests at Virginia Tech's Summer Research & Symposium, showcasing my contributions to the field of organismal biomechanics and bio-inspired engineering.

Wilhelmus Lab - Brown University: *Research Interests: sea ice dynamics & turbulence in biological phenomena.* Providence, RI
Undergraduate Research Engineer Sep 2021 - Aug 2022

- Contributed to research projects focused on understanding the complex interactions between sea ice and marine biological systems.
- Gathered information on the accessibility of the Sentinel-1 Satellite and how it could be useful for sea ice monitoring.
- Collected PIV data on the swimming patterns and vortex structures of caridean shrimp.

The Predictive Company Barcelona, Spain
Intern June 2021 - July 2021

- Engaged in projects involving the development and implementation of artificial intelligence algorithms for energy efficiency solutions.

EDUCATION

Brown University Providence, RI
Masters of Science in Mechanical Engineering Department of Fluid Mechanics May 2024
Bachelor of Science in Environmental Engineering May 2023

Silicon Valley Career Technical Education San Jose, CA
Mechatronic Engineering Aug 2017 - Jul 2018
The course utilized Arduino boards, Raspberry Pi, motors, and motion sensors to create creative projects such as drift trikes.

RECENT PAPERS, ABSTRACTS, & PRESENTATIONS

Alexander Gehrke, Zoe King, and Kenneth S. Breuer. Drag forces and unsteady wakes behind a poro-elastic membrane disk [Conference Paper]. In: Discovor 2024; APRIL 16-19, 2024.

Zoe King et al. Tongue-sticking in arboreal colubrids during gap crossing [abstract]. In: Virginia Tech Summer Undergraduate Research Symposium 2022, SICB; 2023.

ACTIVITIES

Brown University D1 Women's Waterpolo Providence, RI
CWPA First Team, 2022, 2023, All-American 2022, ACWCP Academic All-American Aug 2019 - May 2023

Brown Womxn's Collective Providence, RI
A Program House centered around female friendships and prioritized diversity, inclusion, and accessibility Jan 2019 – May 2023

Space Horizons - Brown University Conference: Conference Coordinator Providence, RI
A student team-run annual conference/workshop dedicated to exploring space technologies under the supervision of Dr. Rick Fleeter.