WaiYan (Anson) Chan

ans0nchan@outlook.com | 630-210-1557 | linkedin.com/in/anson-waiyan-chan/

EDUCATION

University of Wisconsin-Madison

B.S - Mechanical Engineering, GPA: 3.72/4.00 *December 2021*

M.S - Electrical and Computer Engineering, GPA: 3.88/4.00 *Expected August 2024*

- Advisor: Eric L. Severson

Coursework: Electromagnetic Design of AC Machines • Dynamics and Control of AC Drives • Redesign and Prototype Fabrication • Power Electronic Circuits and Laboratory • Finite Elements

RESEARCH EXPERIENCE

Wisconsin Electric Machinery and Power Electronics Consortium (WEMPEC) **Madison, WI**

Graduate Research Assistant – Severson Group *August 2022 –Present*

- **Additively Manufactured Stator Housing for High-Speed Bearingless Generator**
  - Develop and fabricate additively manufactured housing with integrated cooling channels for a 100kW, 80kRPM high-speed twin bearingless generator in a microturbine-based CHP generation system.
- **Bearingless Machines (BSPM) for Aerial E-Turbocharger Application**
  - Facilitate the development of a multi-physics modeling framework for evaluating and optimizing BSPM electric machines. Created Python scripts necessary to evaluate machine constants and coil inductances in JMAG.
  - Performing setup and characterization of a 4-DOF 8kW twin stators BSPM machine. Prepared engineering drawings and fabricated components for dynamometer fixturing.
  - Experimentally validate BSPM FEA thermal models created in ANSYS Motor-CAD.

Publication:

T. S. Slininger, **W. Chan**, E. L. Severson, and B. Jawdat, "An Overview on Passive Magnetic Bearings," 2021 IEEE International Electric Machines & Drives Conference (IEMDC), Hartford, CT, USA, 2021

WORK EXPERIENCE

Milwaukee Tool **Brookfield, WI**

NPD Mechanical Design Engineer January 2022 – August 2022

- Conducted FEA analysis on BLDC motors of different sizes and winding configurations, recommended optimal designs for product development using Pugh Matrix for informed and cost-effective solutions.
- Assessed power tool performance requirements through the collection and analysis of motor thermal characteristics and power output data from competitor products.

Wisconsin Electric Machinery and Power Electronics Consortium (WEMPEC) **Madison, WI**

Undergraduate Researcher September 2019 – December 2021

- Prototyped a desktop size dynamometer setup capable of characterizing electric machines rated up to 20 N-m of torque and 3000 RPM. Reduced the original setup volume by 35%.
- Collaborated with a team of graduate researchers to prototype a modular terminal box for powering a 200 kW NASA prototype machine. Responsible for sourcing parts and creating CAD models.
- Fabricated BSPM machines by producing stator slot windings and machining components used in the assembly.

PROJECTS & EXTRACURRICULAR

eMach – Open-Source Machine Modeling and Optimization Framework - *github.com/Severson-Group/eMach*

Compact Low Voltage Induction Motor with 3D Printed Housing – 2021 ME Senior Design

UW CoE Undergraduate Learning Center – Tutor, for Physics and Engineering Statics**,** 2018-2019

Wisconsin Racing Electric - Chassis Team Member, 2018 - 2021

- Competed in FSAE Electric 2019 in Lincoln, NE, 2nd place in design category.

SKILLS

Hands-on	Electric Machine Fabrication • Component Machining and Assembly • CAD Design and Drafting
Softwares	Python • SolidWorks • MATLAB / Simulink • NX • LabView • MAGNET • FEMM • JMAG • LaTeX • GD&T
Languages	English • Mandarin Chinese • Cantonese