NIKOLAJ HINDSBO

Summer 2024 Internship, Full-Time January 2025

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Mechanical Engineering and AI student looking to work on both hardware and software integration for physical products - particularly in the intersection of mechatronics and artificial intelligence.

EDUCATION

AI in Mechanical Engineering, M.S

Carnegie Mellon University

August 2023 - December 2024 Pittsburgh, PA

Engineering Mechanics, B.S. & Computer Science, Minor

University of Wisconsin-Madison

August 2019 - May 2023 Madison, WI

GPA: 3.86 Graduated with Distinction

EXPERIENCE

Intern – Software Development/R&D

Ansys – Mechanical Business Unit

Summer 2022, 2023 Pittsburgh, PA

- Developed new and enhanced existing features in Ansys Mechanical.
- Extensive debugging and tracing experience with legacy systems and COM. In order of relevance: experience with C++, JS, HTML, CSS, C#.
- Exposed key statistics to users, designed HTML worksheets with backend features, added CAD checks to prevent solution failure, and helped expand tooltip capabilities.
- Experience working cross-team and designing solutions that align with company-wide standards.

Head Tutor/TA/Facilitator

Undergraduate Learning Center (ULC)

Feb 2021 - May 2023 Madison, WI

- Head Tutor in charge of afternoon drop-in sessions.
- Tutored Statics, Dynamics, Physics, and Mechanics of Materials.
- Lead a discussion section class for Statics in Spring 2023.
- TA for Summer 2021 Statics.

Vice President

Badger High Speed Rail

Sep 2019 - May 2023 Madison, WI

- Helped arrange events, recruit, and lead discussions for the club.
- 2019 Final Round Winners of Foxconn Smart Cities Smart Futures.

TECHNICAL SKILLS

SOLIDWORKS	●●●●○
Ansys Mechanical	●●●○○
Python	●●●●○
MATLAB	●●●●○
C++	●●●●○
JavaScript / HTML / CSS	●●●●○
AngularJS / jQuery	●●●○○
PyTorch / TensorFlow	●●●○○
Spark / SQL	●●○○○

PROJECTS

Refueling Satellite (Senior Capstone)

Designed a refueling satellite in SOLIDWORKS and produced a report that emulates R&D considerations and justifications for an industry design.

This report gives justifications for design with considerations of orbital mechanics, robotic arm attachment and fueling plumbing design, analytical analysis, and FEA analysis to justify our design. Click here to see.

Beach Cleaning Device (Senior Capstone)

Set out to design and prototype an original product. The result was a report with economic and analytical analysis justifications and a prototype for the design of a mechanical beach cleaning device that can be attached to a bike. Click here to see.

Ansys Mechanical and APDL

Worked on a variety of symmetry, axisymmetry, static-structural, modal, harmonic, and thermal analysis problems in my intro to FEA class and Senior Capstones.

Relevant Courses

Engineering: Statics, Advanced Dynamics, Robotic Dynamic Analysis, Advanced Mechanics of Materials, Fracture Mechanics, Aerodynamics, Tissue Mechanics, Heterogeneous and Multiphase Materials, Thermodynamics, Heat Transfer, Circuits, SOLIDWORKS, FEA (Ansys).

Computer Science: Systems and Tool Chains for AI Engineers, AIML for Engineers, Intro-AI (all three Python), Fundamental CS Classes 1-3 (object-oriented Java, Bash, Intro to JS/HTML, data structures), Engineering Problem Solving (Python/Matlab), , Building User Interfaces (website, mobile, speech and text interfaces, and UX design skills – JS, React, React-Native, DialogFlow), Virtual Reality (Unity), Work Experience (C++, JS/HTML/CSS, C#

Mathematics: Multi-Variable & Vector Calculus, Lin Alg/Diff Eq, Statistics, Applied Math Analysis.