Joseph Shneyderman

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Education

Northeastern University   *Exp. Graduation: May 2024*
Candidate for B.S. in Mechanical Engineering
Coursework completed: Thermodynamics, Statics, Material Science, Fluid Mechanics, Dynamics, Mechanics of Materials, Robot Dynamics and Controls
Coursework in progress: Measurements and Analysis, FEA, Electrical Engineering and Heat Transfer
Extracurricular activities: Northeastern Electric Racing – Head of Handling

Work Experience

Mechanical Design Co-Op – Indigo technologies, *Woburn MA*   *June 2022-December 2022*
- Collaborated with a group of 3 engineers to redesign custom motor components to allow for more efficient and cost-effective production while also making the system more robust.
- Designed, manufactured, and ran a modular test rig for components within a coolant system to further characterize and validate specific parts.
- Modified an existing static display stand of the Indigo Smart Wheel to display the full range of dynamic functionality of the system
- Created 10+ brackets/small parts for 2 prototype vehicles and a test stand, utilizing GD&T during the drawing process

Data Collection Specialist/Test Technician - DEKA R&D, *Manchester NH*   *May 2021-April 2022*
- Collected and curated 1,000,000+ images to improve machine learning models for object detection and traffic light recognition.
- Assembled 12 unique testing machines to collect terabytes of data.
- Utilized Python to automate processes within collection and curation saving 2+ hours per collection effort.
- Headed a small team to parse through 3 terabytes of archived data, curating for specific instances.
- Participated in 2+ test operations per day of robotic delivery systems, providing detailed feedback on functionality and failures.

Academic Projects

Northeastern Electric Racing   *September 2021-Present*
- Reworked an existing suspension system to remove 56% of the unsprung mass, increasing the performance and handling characteristics of the vehicle
- Led a group of 5 members in researching, designing, and fabricating 20+ critical components
- Managed the steering, suspension and brakes teams, keeping them on track to design and fabricate components for a single seat electric race vehicle within a 2-year design cycle

Robots – Cornerstone for Engineering Final Projects   *Fall 2020-Spring 2021*
- Fabricated a medicine delivery robot, utilizing an Arduino and 4 servo motors to eliminate close personal contact between hospital staff and patients, as a means of reducing the spread of COVID-19.
- Developed and constructed a robot incorporating 2 Arduinos to take and log customers' orders, reporting to the kitchen and delivering the orders back to the customer.

Personal Projects

Audi Motor Replacement   *June-October 2019*
Repaired an Audi from a non-running state to a functional state. Replaced motor and other failing components. Collaborated with a fellow engineer to restore the vehicle with self-learned knowledge, incorporating troubleshooting, research and hands on skills.

Skills/Interests

Programming: C/C++, Python, MATLAB/Octave
Skills: Arduino, Robotics, CAD, Microsoft Office Suite, SolidWorks, 3D-Print Experience, Linux, Image Processing, Lab Experience, MIG Welding, CNC, Manual Lathe/Mill, GD&T
Languages: German and Russian
Interests/Hobbies: Automation, Cars, Robotics, Hiking, Formula 1, Traveling, Football, Running