MICHAEL PETTA

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EDUCATION

University of Washington - Seattle   **Seattle, WA**
Bachelor of Science, Electrical and Computer Engineering   Dec 2026
Dean's List Honors (5/6 quarters)

PROFESSIONAL EXPERIENCE

Jefferson County PUD   **Port Townsend, WA**
Electrical Engineering Intern   Jun 2025 - Present
- Collaborating with staking engineers to design new electrical services and prepare work packages for transformer and pole replacements, applying safety standards to ensure code compliance.
- Conducted field work and assessments to gather inventory data on transformers, distribution cables, and other system components, improving asset tracking and project planning accuracy.
- Developed GIS applications and digitized utility easements while organizing engineering drawings and electronic records to enhance data accessibility for future projects.

Washington Experimental Mathematics Laboratory   **Seattle, WA**
Undergraduate Researcher   Mar 2025-Present
- Enhanced the University's calculus curriculum through development of interactive 3D animations, leveraging the Manim CE Python library and custom 3D print designs to help students learn visually.
- Contributed valuable research insights and findings within a cross-disciplinary team of faculty and students, utilizing collaborative development methods to meet the project's goals.
- Produced several high-quality videos providing detailed explanations of calculus topics such as Arc-Length and Multivariate Calculus. These videos include corresponding 3D printed objects to further supplement learning quality.

Husky Satellite Lab   **Seattle, WA**
Power Electronics Team   Feb 2025-Present
- Engineering a battery management system board (BMS) for the NASA-funded project HuskySat-2 CubeSat, implementing custom schematics and PCB development with KiCad.
- Gained practical expertise in power systems and battery optimization while working on the boards integration with other critical satellite subsystems.
- Designed complete solar battery management system featuring buck-boost power conversion, MPPT charging, and comprehensive monitoring, advancing the project from schematic capture through PCB layout for prototype manufacturing.

PACCAR E-Truck   **Seattle, WA**
Powertrain Team Lead, Electrical Team   Nov 2023 - Apr 2025
- Assisted in the design of an electric semi-truck powertrain system through the co-leadership of a 14-person team, utilizing specialized software for analysis and simulation.
- Strengthened team cohesion and knowledge-sharing through regular technical and research presentations, using advanced simulation tools.
- Developed proficiency in Matlab and Simulink through hands-on modeling of electric powertrain systems, creating accurate computer-aided designs.

PROJECT AND RESEARCH EXPERIENCE

2024 SynapTech Neuro-Engineering Hackathon   **Seattle, WA**
First Place   March 2024
- Accomplished first place in the 2024 SynapTech Neuro-Engineering Hackathon developing NeuroFlirt, an EEG-based dating app that analyzes brain activity in real time using a Muse headset to score conversational compatibility.
- Reduced EEG data from 14 channels to a 4-channel format, achieving compatibility with the Muse headset demonstrated by the successful analysis of ~4 million rows of data. Trained LightGBM ML model producing an RMSE of ~2 on a 0-8 scale.
- Collaborated with a team of three to introduce a full prototype with a demo giving emotional feedback during conversations

Community Project - Basketball Court Restoration   **Port Townsend, WA**
Partnerships Manager   Jul 2022 - Jun 2023
- Secured over $15,000 in funding, by launching a GoFundMe initiative, obtaining a $5,000 Jefferson County grant, and cultivating partnerships with local businesses.
- Developed practical financial planning and partnership skills, as shown by the allocation of funds across project needs.
- Contributed to the technical execution of the project through active participation in installation and construction activities.

ADDITIONAL INFORMATION AND SKILLS

Skills: KiCad, Java, Python, numPy, matplotlib, Matlab, Simulink, Latex, Excel, Technical Writing, 3d Printing, Version Control, Prompt Engineering.
Relevant Coursework: Java Programming III, Scientific Computing, Electromagnetism, Data Structures & Algorithms, Linear Algebra, Engineering Statics, Calculus IV, Circuit Analysis, Computer Hardware Skills, Signal Processing Programming, Differential Equations.