

NILE JAMES BROWN

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SUMMARY

Mechanical Engineering senior eager to contribute to any engineering industry. Passionate about learning and problem-solving, with a focus on positional control and power conversion circuitry. Open to relocation and excited to grow within a professional team.

EDUCATION

University of Colorado, Boulder | College of Engineering and Applied Sciences

May 2025

Bachelor of Science: Mechanical Engineering

Central High School, Philadelphia | International Baccalaureate Program

June 2021

AWARDS & CERTIFICATIONS

Certified SolidWorks Associate (CSWA): ID: C-GYBFXTC6JM issued 2024

Dean's List Scholar Scholarship recipient, College of Engineering and Applied Sciences issued 2021

PROJECT EXPERIENCE

Electromechanical Engineer, US Department of Energy: Collegiate Wind Competition | Boulder, CO. Aug 2024 – Current

- Contributed to interdisciplinary efforts in electrical, nautical, and mechanical fields for DOE's Collegiate Wind Competition.
- Designed and implemented power conversion circuitry, digital logic, PCB fabrication, and electrical integration with floating base.
- Led nautical development for an Oregon-based offshore wind farm while designing competition turbines floating foundation.

WORK EXPERIENCE

Mechanical Engineering Intern, Einhorn Engineering PLLC | Seattle, WA.

May 2024 – Jan 2025

- Designed and delivered a Torque Cell Checkout Box for sonar positional controls on the USNS Impeccable for the US Navy.
- Assisted with key engineering projects, collaborating closely with the chief engineer of RV Atlantis and assisting ship inspections.
- Made mooring waterfall winch frame concept for U.S. Army Corps of Engineers while contributing on O&M Manual for SURTASS-E.

Undergraduate Researcher / Engineer, Vernerey Soft Matter Mechanics Group | Boulder, CO.

Aug 2023 – Oct 2024

- Developed robotic models to simulate fire ant swarming dynamics using SolidWorks and various manufacturing processes.
- Analyzed particle motion and collective behavior, applying Excel, Python, and MATLAB for data collection and interpretation.
- Contributed to research publications and presented findings at NCUR and NSF conferences.

Software Engineering Intern, School District of Philadelphia | Philadelphia, PA.

Sep 2021 – Sep 2022

- Assisted in developing and debugging the PFT Healthy Schools Tracker app, working with C++, Java, and Swift.
- Designed and tested UI components while supporting team collaboration through Figma and Airtable.
- Gained experience in MVVM architecture, procedural writing, and data management.

Café Barista / Busser, Philadelphia Java Company | Philadelphia, PA.

Jul 2015 – Sep 2022

- Provided customer service and managed point-of-sale transactions while maintaining quality control standards.
- Developed bookkeeping and workflow efficiency skills.
- Strengthened verbal communication skills in both English and French through customer interactions.

SKILLS

Mechanical: 3D CAD modeling (SolidWorks, Revit, Onshape, Adobe), precision machining (CNC, MMS, laser cutting), geometric dimensioning & tolerancing (GD&T), finite element analysis (FEA), mechanical system troubleshooting, rapid prototyping.

Electrical & Embedded Systems: PCB design and fabrication (ALTIUM, KiCad, EAGLE), microcontroller programming (Arduino, AT microchip coding), circuit analysis and debugging, power electronics, motor control systems, I2C communication.

Software & Data Analysis: Programming in C++, Python, MATLAB, and Swift, data visualization and modeling (Excel, Simulink), version control (GitHub, Bild PDM, SolidWorks PDM), app development (Figma, Swift MVVM), numerical simulations.

Communication & Documentation: Technical writing (O&M manuals, research papers), bilingual proficiency (English & French), collaboration tools (Trello, Slack, Airtable), project documentation and reporting.

WEBSITES, PORTFOLIOS, PROFILES

LinkedIn Profile: <https://www.linkedin.com/in/nile-brown-922029334/>

Engineering Portfolio: <https://nibr4171.wixsite.com/portfolio-nile-brown>

Research Profile: <https://www.colorado.edu/lab/vernerey/nile-brown>

INTERESTS:

Muay Thai, Flamenco Guitar, Judo, Cooking, Tango, Skiing, Sailing, Dungeons & Dragons, Language Exchange, Golf