Nathaniel Reppucci

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EDUCATION

- **Worcester Polytechnic Institute** — Worcester, MA
  B.S./M.S. in Electrical and Computer Engineering; GPA: 3.91 — *Aug 2020 - May 2024*

  Relevant Courses: *Microelectronics I/II, Digital Circuit Design, Embedded Computing in Engineering Design, Continuous and Discrete Time Signal and System Analysis, Electromagnetic Fields, Power Electronics, Power System Analysis, CMOS Fundamentals, Analog IC Design*

SKILLS SUMMARY

- **Soft Skills**: Collaboration, Organization, Communication, Creative Problem-Solving, Adaptability
- **Languages**: Python, SystemVerilog, VerilogAMS, C, C++, MATLAB, LaTeX, R
- **Tools**: Cadence Virtuoso, Altium Designer, ADS, LTSpice, PSIM, SCPI, NI Multisim, VS Code, Git, Arduino, Overleaf

EXPERIENCE

- **Infineon Technologies AG - IR HiRel** — Andover, MA
  IC Verification Engineer — *May 2024 - Present*

- **Generac Power Systems - Clean Energy** — South Portland, ME
  Electrical Engineering Intern — *Jun 2022 - Aug 2022, May 2023 - Aug 2023*
  - Worked on the development and validation of solar inverters and optimizers. This included extensive individual laboratory work with high voltage devices, validation testing, test equipment automation with Python and SCPI, compliance testing, alternate component sourcing and verification, hardware debugging, and failure analysis

ACADEMIC PROJECTS

- **Power Amplifier Design for Wireless Power Transfer**:
  - Part of an ongoing project to design a wireless power transfer system for implantable and wearable medical devices. Individual responsibilities include specifying and designing a non-linear power amplifier, design of an impedance matching network to support the amplifier load, and integration and testing of the amplifier, matching network, and coil load

- **soloPlane - Major Qualifying Project**:
  - Researched and developed sensors for implementation in a digital musical instrument. Custom sensor bar uses force sensitive resistors, accelerometer, and MEMs mic sensors to characterize musician input. Applied and awarded WPI Kalenien Award grant which aims to support innovative ideas and assist in the process of moving an invention toward commercialization

ACADEMIC INVOLVEMENTS

- **Integrated Circuits and Systems Lab**
  Student Researcher — *August 2023 - May 2024*
  - Member of faculty led research laboratory focused on the development of integrated circuits and systems. Research focus is Wireless Power Transfer systems for implantable and wearable medical devices

- **Skull Senior Honor Society**
  President — *May 2023 - May 2024*
  - Member of selective senior honor society that recognizes students, faculty, and staff at WPI. Society provides networking opportunities, maintains campus traditions, and facilitates projects for the betterment of the campus community

- **Tau Beta Pi - Alpha Chapter**
  Lifetime Member — *April 2023 - May 2024*
  - Member of national engineering honor society that recognizes students for distinguished scholarship and exemplary character as students in engineering

- **Eta Kappa Nu - Gamma Delta Chapter**
  Lifetime Member — *Feb 2023 - May 2024*
  - Member of honor society that recognizes electrical and computer engineering students for academic abilities, unimpeachable character, and positive attitudes. Provides opportunities to develop skills and network outside of coursework

- **Omicron Delta Kappa**
  Lifetime Member — *Apr 2022 - May 2024*
  - Member of honor society that recognizes collegiate leaders based on its pillars of collaboration, inclusivity, integrity, scholarship, and service

- **Electric Guitar Innovation Lab**
  Student Researcher — *Dec 2021 - May 2024*
  - Member of faculty led student research group that works on projects related to music technology through WPI's Electric Guitar Innovation and Interactive Music Systems Lab