# Nathan Herling

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**Personal Statement**: Aspiring Software Engineer and Data Scientist with a passion for innovation. Divergent thinker eager to learn new technologies and thrive in fast-paced, collaborative teams.

## EDUCATION:

- **Master of Science (M.S.) in Data Science**
  The University of Arizona, Tucson, Arizona — Expected Graduation: May 2027
- **Bachelor of Science (B.S.) in Electrical & Computer Engineering**
  **Dual tracks**: **Electrical Engineering Track and Computer Engineering track**
  **Minor Computer Science**
  The University of Arizona, Tucson, Arizona - December 2023
  GPA: 3.50
- **Bachelor of Science (B.S.) in Physics**
  **Minor Mathematics**
  The University of Arizona, Tucson, Arizona - May 2024
  GPA: 3.50

## EXPERIENCE:

**Summer 2023 Intern at Clinisys (Tucson, AZ office).**
- Worked both independently and as part of a team to identify and mitigate security vulnerabilities in C# code, enhancing application security and improving code quality.
- Developed Python automation scripts using the Veracode API and XML file processing to generate weekly reports through Azure Pipelines, optimizing the detection and management of security vulnerabilities.
- Collaborated with the development team to improve software performance and security through iterative testing and debugging, aligning with best practices in secure coding and development.
- Demonstrated leadership by independently organizing and executing a Python project, delivering software that fully met all specified requirements.

**Summer 2022 REU Cognitive and High Frequency Radio at The University of Arizona.**
- Conducted data analysis and algorithm development to construct and implement a reinforcement learning model for optimizing 5G virtual networks (slices). Contributed to the design and simulation of next-gen wireless communication systems during the Summer 2022 REU program.

**The University of Arizona, Department of Physics (2019-2022).**
- Collaborated with the CERN muon spectrometer calibration team, coding in C/C++ to enhance the accuracy of experimental data collection. Developed Python scripts to build a data-driven, model-independent machine learning algorithm for the search for Long Lived Particles (LLPs) at the Large Hadron Collider (LHC), contributing to cutting-edge particle physics research under the guidance of Prof. Ken Johns.

## PROJECTS:

**Software: The University of Arizona ENGR 498A/498B 'Senior Design.'**
- Built a full-stack website using HTML, PHP, JavaScript, SQL, and Python to generate various health-based questionnaires with different sizes and response types. The questionnaire system was powered by supervised machine learning algorithms written in Python.

## AWARDS:

- Best use of embedded intelligence – Senior Design at the University of Arizona, May 2023.
- Selected for CERN 'SUPER award' – research grant, May 2022.
- Selected for Summer REU - 'Cognitive Radio and High Frequency Research', Univ. of Arizona, Summer 22'.

## SOFTWARE FLUENCY:

- **Software and Development tools:** Python, Java, C, C#, C++, MySQL, MongoDB, Express.js, React, Node.js, Git, Git-Hub
- **Operating Systems:** Windows 10/11, Ubuntu
- **Task Management Tools:** Windows PowerShell, Unix Terminal