BEN BROWN

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OBJECTIVE

Passionately motivated engineer seeking full-time, fast-paced, cross-disciplinary work combining programming, engineering, and ethics in a research setting.
Available Immediately

EDUCATION

BS Electrical Engineering, Rochester Institute of Technology — Earned 2024
Applied Statistics Immersion, Rochester Institute of Technology — Earned 2024
GPA: 3.08

SKILLS

Software Python, C/C++, JMP Pro, Assembly (MSP430), PyTorch, Git tools, Java, LaTeX
Hardware Electrical Lab Tools, Circuit Analysis (AC/DC), SMT/THT Soldering

EXPERIENCE

Research Assistant | *Cybersecurity* — Aug 2023 - Dec 2023, May 2024-Present
DeFake Project — *Rochester, NY*

- Wrote scalable, modular **PyTorch framework** for variable-scale testing of **DeepFake detection** algorithms to investigate the security of visual media. Goal of publishing results in November 2024 conference.
- **Collected data** on several adversarial attacks (within ART) for DeepFake detectors and generators to determine vulnerabilities in common deepfake detection architectures.
- Participated in team reading groups about Artificial Intelligence and Cybersecurity.

Electrical Intern | *Defense* — Jan 2023 - Aug 2023
L3Harris Technologies — *Rochester, NY*

- Produced largest hardware prototyping run seen by sector in record time in a non-production facility.
- Wrote complete **Python test suite** to automate hardware checks of radios, **increasing efficiency by 57%**.
- Wrote procedures, Python/C/C++, and reports for small scale testing.
- Used oscilloscopes, multimeters, and soldering to debug and repair failing units.

Electrical Intern (ML/AI) | *Titanium Production* — Jan 2022 - Aug 2022
TIMET Morgantown — *Morgantown, PA*

- Used **SQL database** to analyze historical data and implement technology to save the company seven figures annually.
- Deployed **time series prediction** technologies and python tools (**NumPy, Pandas, Scikit-learn**) to estimate chemical profile of furnace contents and ensure melt quality.
- Advocated for ethical implementation of technological tools to prevent reckless worker displacement.
- Designed custom genetic algorithm to optimize **XGBoost** hyperparameters in production use.

PROJECTS

Engineering Capstone - Spectral Sensor Integration: Lead small, high performance team of students to design, manufacture, and produce a fast, high accuracy system for detecting light on the SWIR spectrum.

Statistical Optimization of Neural Network Hyperparameters: Collaborated with small team to design, run, and analyze an experiment using DOE principles and JMP 16 statistical software. Results were compiled into extensive report discussing methodology, analysis, and conclusions.