BEN BROWN

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OBJECTIVE

Passionately motivated electrical engineer seeking full-time, fast-paced, cross-disciplinary work combining Electrical Engineering, Applied Statistics and Ethics in a research setting
Available post-graduation in May 2024

EDUCATION

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

SKILLS

Software Python, PyTorch, JMP, Java, C/C++, Assembly (MSP430), MATLAB, LaTeX
Hardware Semiconductor Processes, Verilog/VHDL, Circuit Analysis (AC/DC), SMT/THT Soldering

EXPERIENCE

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

- Wrote scalable, modular **PyTorch** framework for variable-scale testing of **DeepFake detection** algorithms to investigate the security of visual media
- Collected data on several adversarial attacks 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 after testing, increasisng efficiency by 57%
- Wrote procedures, **Python/C/C++**, and reports for small scale testing
- Used oscilliscopes, multimeters, and soldering to debug and repair failing units

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

- Collaborated with several groups in producing technology that simultaneously simplifies operator's jobs, and potentially saves the company seven figures annually
- Employed several Time Series prediction technologies, including fundamentals **(RNN, LSTM, GRU)** and state of the art **(SCINet, FEDformer)** 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

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

TrackmaniaRL - EEEE-547 Final Project: Created Neural Network based RL agent in **PyTorch** that worked within a TrackMania 2020 gym enviornment with a continuous action space. Tasked with completing a test track using reward engineering, and tuning hyperparameters of A2C.