Shawn-Patrick Barhorst

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SUMMARY

Electrical Engineering student at the University of Tennessee - Knoxville, with an interest in machine learning and scientific computing.

EDUCATION

University of Tennessee   Knoxville, TN
Bachelor in Electrical Engineering, Minor in Machine Learning   *Aug. 2020 - Current*
                                                                                         GPA: 3.2

TECHNICAL SKILLS

Languages: Python, C, C++, Fortran, Shell Script, LaTeX
Tools: Matlab, LTSpice, Overleaf, Linux
Libraries: Numpy, Tensorflow, Pytorch, scikit-learn, Pandas, Matplotlib, HuggingFace

EXPERIENCE

Bioinformatics Undergraduate Research Assistant   January 2023 - Present
Min H Kao Department of Electrical Engineering and Computer Science   *Knoxville, TN*

- **Data Analysis** - Perform data cleaning on bioinformatics data and create and analyze classification models for further analysis.
- **Model Optimization** - Use performance from previous models to make improvements on following iterations.
- **Paper Contribution** - Read and provide feedback on teams research paper contributions, as well as commit personal findings.
- **Presentations** - Provide information on findings derived from machine learning models to display accuracy and precision, in an effort to gain input and feedback to further optimize models.

President of Machine Learning at UTK   August 2022 - Present
Machine Learning at UTK (Student Organization)   *Knoxville, TN*

- **Public Speaking** - Give weekly presentations on topics in Machine Learning such as, algorithms, research, and projects.
- **Organize Workshops** - Organize weekly events that include guest speakers, competitions, and projects relating to machine learning.
- **Sponsorship Outreach** - Organize and arrange sponsorships for student organization collaboration and funding.
- **Collaborative Outreach** - Participate in outreach to organize student organization collaboration.
- **Guest Speaker Procurement** - Engage in outreach to organize guest speaker events.

IEEE Robotics Member   April 2023 - Present
IEEE Robotics (Student Organization)   *Knoxville, TN*

- **Create Datasets** - Collect image data, organize, store, and label, for machine learning tasks.
- **Data Augmentation** - Modify and transform image datasets to optimize machine learning models.
- **Train and Design Computer Vision Models** - Create and train machine learning models ranging from edge detection algorithms to deep learning models for computer vision tasks.
- **Machine Learning Model Evaluation** - Analyze machine learning model performance and modify datasets and machine learning models performance enhancement.

PUBLICATIONS

2023 - 12

Babjac, Ashley, et al. Adapting Protein Language Models for Explainable Fine-Grained Evolutionary Pattern Discovery. 5 Dec. 2023, https://doi.org/10.1109/bibm58861.2023.10385976.