DAVID BUFFKIN

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OBJECTIVE

I am aiming for a full-time position from which I can apply my knowledge towards novel and meaningful work with real-world benefits to society, but which also provides the chance to develop my skills and myself. Ideally, the opportunity to aid in innovative research and synthesis in AI subject areas.

EDUCATION

Carnegie Mellon University   *August 2019 - December 2021*
Bachelor of Science in Artificial Intelligence   GPA of 4.0

— *Notable ML and AI Coursework*: Deep Learning[†], Speech Processing[†], Neural Computation[†], Human-AI Interaction, Computer Vision, Machine Learning, AI Representation, Control and Perception[†], Neuroevolution, Modern Regression, AI and Humanity

— *Notable CS Coursework*: Computer Systems[†], Theoretical Computer Science, Functional Programming, Parallel and Sequential Data Structures and Algorithms, Imperative Computation

[†] denotes graduate level or cross-listed course

EXPERIENCE

Undergraduate Research   *February 2020 - present*
Training Spiking Neural Networks with Evolutionary Algorithms, Novel hierarchical reinforcement learning, Independent study in neural evolution
- **Skills:** Deep Learning, RL, Evolutionary Strategies, PyTorch, neural architectures

AI Subject Matter Expert   *May 2021 - present*
Emeritus Inc. — Designed, reviewed and deployed AI and ML coursework for privatized education.
- **Skills:** Jupyter, sklearn, project management, communication

iOS Application Developer   *May 2018 - present*
Freelance — Designed, developed, tested and released multiple apps and video games for the iOS platform. Implemented advertising services from Google and Unity.
- **Skills:** Applied ML, React Native, AdMob, full-stack development, Unity, Xcode

Dynamic Growth Simulation   *Summer 2020*
CMU Intern — Modelled (in 3D and mathematically) robust multi-agent greenhouse dynamics and realistic environmental factors for use by autonomous agents. In use for testing and refining real-world automatic farming agents.
- **Skills:** Blender, ROS, Python, User-Focused Design

PROJECTS

MyTorch   *Fall 2020*
Created a automatic differentiation (autograd) library from scratch, including various optimizers, activations, and network layer architectures (Linear, Conv, RNN, GRU). Designed as an imitation of PyTorch for learning purposes.

End-to-End Attention Based Speech Recognition   *Fall 2020*
Fully implemented the Listen, Attend, Spell architecture for speech-to-text transcription.

STRENGTHS

Language Competence	Python, C#, Java, C, C++, JavaScript, R, Matlab, SML, Julia
Other Practical Skills	Ethics, NLP, AWS, Git, Bash, Expo, Flutter, Firebase, LaTeX
Hobbies and Interests	Computational Art, Rock Climbing, Crosswords, Dancing, Onewheel