James Herman

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EDUCATION

Carnegie Mellon School of Computer Science   Pittsburgh, PA
M.S. Computational Data Science | GPA 3.87/4.00   *May 2021*

Purdue University   West Lafayette, IN
B.S. Statistics, B.S. Actuarial Science, B.S. Industrial Engineering | GPA 3.96/4.00   *May 2017*

SKILLS

Languages: Python, Java, Unix Shell, C, R
ML Frameworks: PyTorch, Keras, Tensorflow, Tianshou, MLlib, scikit-learn
Deep Learning: Computer Vision, Reinforcement Learning, Multimodal ML, Neural Compression, NLP
Cloud Computing: AWS, Docker, Kubernetes, Airflow, Bitbucket, Azure, Django, Terraform, Hadoop, Spark

EXPERIENCE

Software Engineer, Backend/Machine Learning   New York, NY
Intellimize, Inc.   *Aug. 2021 - Present*

- Created and shipped an NLP text recommendation service and that implicitly generates website variations
- Led CI pipeline development (AWS, Bitbucket) and Dockerization to automate multi-system integrated test suites

Staff Researcher   Pittsburgh, PA
Carnegie Mellon Roborace Team   *May 2020 – Aug. 2021*

- Founded Roborace's first American team racing Formula E inspired autonomous race cars and actively leading research efforts spanning multiple capstone projects and 20 teammates and advisors
- Designed and implemented a distributed reinforcement learning system, inspired by Google Research's SEED RL and in partnership with CMU's Parallel Data Lab, orchestrated with Kubernetes

Teaching Assistant   Pittsburgh, PA
CMU SCS 15-213 Introduction to Computer Systems   *Spring 2021*

- Taught multiple sections covering topics that include x86_64 assembly, writing cache efficient code, memory organization & management, virtual memory, exceptional control flow, networking, and concurrency

PUBLICATIONS & PUBLIC REPOSITORIES

J. Herman, J. Francis, S. Ganju, B. Chen, A. Koul, A. Gupta, A. Skabelkin, I. Zhukov, A. Gostev, M. Kumskoy, E. Nyberg. Learn-to-Race: A multimodal control environment for autonomous racing. *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

learn-to-race — an OpenAI gym compliant RL environment for autonomous racing [PyPI, github.com/learn-to-race/l2r]

qdbg — a CLI tool to speed up debugging [PyPI, github.com/hermgerm29/qdbg]

qdbg-go — a GoLang implementation of qdbg [github.com/hermgerm29/qdbg-go]

PRIOR EXPERIENCE

Actuary, Product Development   Indianapolis, IN
OneAmerica Financial Partners   *Jun. 2017 - Jun. 2019*

- Developed stochastic statistical models to price the company's flagship hybrid life insurance product suite
- Designed novel joint LTC premium methodology to replace patented "joint equal age" method resulting in an estimated $10.5 million annual impact on premiums

Professional Athlete, Outside Linebacker   East Rutherford, NJ
New York Giants   *Jul. 2017 - Aug. 2017*

- Invited to Rookie Mini-camp & played in Preseason Week 1 game vs. the Pittsburgh Steelers