

# James Herman, Software Engineer

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## PROFILE

A perpetual beginner that enjoys learning new technologies, delivering innovative solutions, and building reliable systems. Experienced in a variety of machine learning domains, building high-performance, distributed simulation systems, and delivering production-grade software.

[Personal Site](#), [LinkedIn](#), [GitHub](#)

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## EDUCATION

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| Aug 2019 — May 2021 | <b>Carnegie Mellon School of Computer Science</b><br>M.S. Computational Data Science   GPA 3.86/4.00               | Pittsburgh, PA     |
| Aug 2012 — May 2017 | <b>Purdue University</b><br>B.S. Statistics, B.S. Actuarial Science   Highest Distinction Graduate   GPA 3.96/4.00 | West Lafayette, IN |

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## SKILLS

**Languages:** Python, Rust (PyO3), C/C++ (PyBind11), Unix Shell  
**ML:** PyTorch, Tensorflow, Keras, HuggingFace, Tianshou, W&B, scikit-learn  
**Deep Learning:** computer vision, reinforcement learning, multimodal ML, NLP  
**Computing:** Git, AWS, Docker, Kubernetes, Airflow, Kafka, Spark, GCP

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## PROFESSIONAL EXPERIENCE

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| Sep 2022 — Present  | <b>Software Engineer &amp; Tech Lead, Swish Analytics</b><br>New York, NY <ul style="list-style-type: none"><li>Leading the re-architecture of core odds-making software for in-game betting and custom parlays</li><li>Reduced production latency by 20x and cost by 70% by migrating performance-critical simulation code to Rust with seamless integration to existing modeling, testing, and deployment infrastructure</li><li>AWS, Rust, PyO3, Python, Redis, Kubernetes, Airflow, GitHub</li></ul> |
| Aug 2021 — Sep 2022 | <b>Backend &amp; Machine Learning Engineer, Intellimize</b><br>New York, NY <ul style="list-style-type: none"><li>Designed &amp; shipped LLM-based text generation micro-service for customer website marketing</li><li>Fully automated multi-service integration tests suites into CI/CD with container orchestration tools</li><li>AWS, Python, FastAPI, OpenAI, RDS, Tensorflow, Airflow, Bitbucket</li></ul>   |
| Jan 2021 — Aug 2021 | <b>Staff Researcher, Carnegie Mellon University</b><br>Pittsburgh, PA <ul style="list-style-type: none"><li>Founded CMU Roborace's team which raced Formula E inspired autonomous race cars, leading to numerous capstone research efforts spanning over 20 teammates and advisors</li><li>Built a distributed RL training system for autonomous racing agents with CMU's Parallel Data Lab</li></ul>  |

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## PUBLICATIONS

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| 2021 | <b>J. Herman</b> , J. Francis, S. Ganju, B. Chen, A. Koul, A. Gupta, A. Skabelkin, I. Zhukov, A. Gostev, M. Kumskey, E. Nyberg. Learn-to-Race: A multimodal control environment for autonomous racing. <i>IEEE/CVF International Conference on Computer Vision (ICCV)</i> , 2021. |
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## PRIOR EXPERIENCE

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| Jun 2017 — Jun 2019 | <b>Pricing Actuary, One America Financial Partners</b><br>Indianapolis, IN <ul style="list-style-type: none"><li>Modeled hybrid life &amp; long-term care insurance with distributed, stochastic simulations</li><li>Designed novel joint LTC pricing methodology resulting in a \$10.5 million impact on annual premiums</li></ul> |
| May 2017 — Aug 2017 | <b>Outside Linebacker, New York Giants</b><br>East Rutherford, NJ <ul style="list-style-type: none"><li>Invited to Rookie Mini Camp; played in Preseason Week 1 game vs. Pittsburgh Steelers</li></ul>  |