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Yesh Godse

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EDUCATION

Oregon State University — Exp. Grad. Jun 2022

B.S. – Computer Science, Minor in Mathematics, Specialization in Robot Learning

- **GPA - 3.96**
- **2020 Barry S. Goldwater Scholar** (most prestigious undergraduate scholarship in natural science, engineering, math)
- **Graduate Courses:** Applied Math, Machine Learning, Deep Learning, Computer Vision, Nonlinear Optimization
- **Undergraduate Courses:** Data Structures, Algorithms, Operating Systems, Probability, Differential Geometry

EXPERIENCE

Intel – *AI Software Engineer Intern* — Jun 2020 - Present

*Supervised by **Professor Ellick Chan** (Intel, Northwestern) and **Richard Liaw** (Anyscale, UC Berkeley)*

- Developed a versatile ***Neural Architecture Search (NAS)*** tool for finding optimal CNN and RNN architectures for accuracy and inference on supervised learning datasets.
- Distributed the Differentiable Architecture Search (DARTS) algorithm with the ***Ray Distributed ML framework***.
- NAS tool used by Intel's AI Builder Team to find optimal low-power network architectures for inference on Intel CPUs

Dynamic Robotics Lab – *Deep RL Researcher* — Sep 2018 - Present

*Advised by **Professor Alan Fern** (OSU) and **Professor Jonathan Hurst** (OSU)*

- Conduct groundbreaking research and experiments on ***Deep Reinforcement Learning for Humanoid Robots***, including ***making a human-scale biped run a 5K in under an hour*** with a control policy learned fully in simulation.
- Creator and maintainer of leading Deep RL framework for legged robotics community: ***Apex - github.com.osudrl/apex***
- ***Apex is*** used by legged robotics labs across UC Berkeley/Google Brain, UMich, CMU, ETH Zürich, Intel.
- Publishing at top AI and Robotics conferences (ICML, ICLR, RSS, ICRA).

PUBLICATIONS

Sim-to-Real Learning of All Common Bipedal Gaits via Periodic Reward Composition — ICRA 2021

J. Siekman*, **Y. Godse***, A. Fern, J. Hurst

Learning Spring Mass Locomotion: Guiding Policies with a Reduced-Order Model — ICRA 2021

K. Green, **Y. Godse**, J. Dao, A. Fern, J. Hurst

SELECTED PROJECTS

Apex - *Deep Reinforcement Learning Library for Robotics*

- Modular, distributed implementations of continuous ***Deep RL algorithms*** and stochastic control techniques
- ***Primary RL tool for OSU's Dynamic Robotics Laboratory***. *Supports custom RL environments for robotics.*
- Python, C++, PyTorch, Ray, TensorBoard

RayNAS - *Distributed Neural Architecture Search Package*

- ***Only public Neural Architecture Search project which uses the Ray framework for scaling***. Developed for Anyscale.
- Parallelizes Differentiable Architecture Search (DARTS) and Efficient Neural Architecture Search (ENAS).
- Python, PyTorch, TensorFlow, Ray.

Navier-Stokes Simulations - *GPU-accelerated simulations of fluid flow*

- Collection of 2D and 3D simulations of fluid flow according to navier-stokes equations. Created while learning graphics
- C++, OpenGL, CUDA, JavaScript, Python

AI for Artwork - *Novel Technique for Visualizing Neural Networks*

- DeepDream-like algorithm for generating visualizations of pre-trained CNNs. **Contributed to Google's Project Magenta.**
- Python, Caffe, TensorFlow.