Georgy Savva

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Research Interests

World Models, Representation Learning, Digital Agents, Multimodal Learning

Education

New York University — New York, United States
Master of Science in Computer Science, Courant Institute of Mathematical Sciences. GPA: 3.8 — *2024 – Expected 2025*
Relevant courses: Computer Vision

Russian University of Cooperation — Moscow, Russia
Bachelor of Science in Computer Science — *2019 – 2021*

Research Experience

Research Assistant — Jan 2025 – Present
NYU Courant Institute of Mathematical Sciences, Advised by Prof. Saining Xie — *New York, United States*

- Developed a Minecraft World Model in JAX matching the performance of the proprietary SOTA model
- Developed the first multi-agent Minecraft World Model

Research Intern — Jun 2024 – Nov 2024
NYU Courant Institute of Mathematical Sciences, Advised by Prof. Lerrel Pinto — *New York, United States*

- Applied online reinforcement learning to fix the human demonstration morphology gap for dexterous robotic manipulation
- Trained a behavior cloning policy using transformers on third-person human demonstration data to solve dexterous robotic hand tasks
- Setup an auto-resettable reinforcement learning environment for online robot training using the spacemouse device

Publications

1. *HuDOR: Bridging the Human to Robot Dexterity Gap through Object-Oriented Rewards*
   I. Guzey, Y. Dai, **G. Savva**, R. Bhirangi, L. Pinto.
   ICRA 2025 (Under Review). Website

Projects

World Model Finetuning Analysis — Jan 2025 – May 2025
Investigated the generalization and failure modes of two SOTA Minecraft World Models on three data distributions. Website

Transformer-Based Diffusion for Game Generation — Oct 2024 – Dec 2024
Trained a transformer diffusion model to simulate DOOM trajectories. It achieves a PSNR of 32.21 in the teacher-forcing setting, producing an indistinguishable quality from the ground truth. Website

Advantage Actor-Critic with Optuna — Jul 2024 – Sep 2024
Trained a reinforcement learning agent with Optuna for the HalfCheetah env, achieving a 24% better performance than the best publicly available policy. Website

Open-Source Library Scany — May 2020 – Present
Created an open-source library to map data from a database into Go objects. The library has 1,300 stars on GitHub and is used by thousands of companies. GitHub

Industry Experience

Senior Software Engineer Oct 2023 – May 2024
Raylu *New York, United States*

- Led backend development of an LLM chatbot for healthcare and deployed it to production, serving first paying customers
- Developed an LLM-powered SaaS workflow automation application using the open source workflow engine activepieces, allowing the company to release a new product in under 3 months

Technical Co-Founder Jul 2022 – Aug 2023
Scifind *Los Angeles, United States*

- Launched a troubleshooting platform for bioscientists into production, gaining 4,000 MAU in the first 2 months
- Led the development of the product with a team of 2 engineers using TypeScript, Next.js, and Node.js

Senior Software Engineer Jan 2021 – Jul 2022
IOTA *Berlin, Germany*

- Developed a new network layer of the blockchain node using libp2p, decreasing the number of peering errors by 70%
- Set up automatic deployment via Ansible and GitHub Actions, accelerating the development speed by 25%
- Introduced Go guidelines to the project and tools to ensure them, reducing the frequency of bugs by 50%

Senior Software Engineer Jan 2020 – Jan 2021
Elsa *San Francisco, United States*

- Implemented App Store and Google Play in-app subscriptions as microservices using FastAPI, which improved the correctness of billing by 50%
- Integrated payment gateway Instamojo, increasing the number of app purchases in Asia threefold

Software Engineer Mar 2017 – May 2019
Edwin.ai *San Francisco, United States*

- Participated in building the English tutor chatbot from a prototype stage to being the top 1 bot on Facebook
- Implemented a YAML-file-based framework for building dialog systems, which allowed the company to launch a new product on Google Assistant
- Designed a distributed queue using PostgreSQL to handle messages from 800,000 users
- Developed the user knowledge graph service using Neo4j, improving the performance of read queries threefold

Software Engineer Jun 2016 – Mar 2017
Snaappy *Moscow, Russia*

- Rewrote the messaging service in Go, which increased the backend performance fivefold
- Migrated the chat storage from PostgreSQL to MongoDB, allowing horizontal scalability for the data layer
- Implemented a Websocket service for real-time updates using Go, driving user engagement by 30%

Skills

Languages: Python, SQL, Go, TypeScript
Machine Learning: Transformers, Diffusion, U-Net, CNN, LSTM, Reinforcement Learning, Distributed Training, TPU
Libraries: PyTorch, JAX, Gym, Optuna, Hydra, TensorFlow, Numpy, Pandas, FastAPI, React, Node.js
Tools: Docker, Kubernetes, PostgreSQL, AWS, GraphQL, Hasura

Certifications

Probability & Statistics for Machine Learning & Data Science Sep 2024
DeepLearning.AI, GPA: 93/100

YC Summer Startup School Aug 2022
Y Combinator

Mathematics for Machine Learning: Multivariate Calculus Dec 2021
Imperial College London, GPA: 96/100

Mathematics for Machine Learning: Linear Algebra Dec 2021
Imperial College London, GPA: 96/100