

Victor Samsonov

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A lifelong learner

Currently taking graduate-level courses at Stanford (Stanford AI Graduate Program)

MIT Hackathon Judge and Mentor / MIT Generative AI Awardee / Experienced in scalable, distributed and resilient solutions / Azure certified Data Science Associate

PROFESSIONAL EXPERIENCE

Software Engineer - Data Science Engineer
RedMane Technology LLC

Jan 2024 - Present
Chicago, Illinois

- Using expertise in **Machine Learning, Data Engineering and Software Engineering** for enhancing a child-welfare system.
- Improving scalability of core product, implementing a **Data Science platform using open source tools (HDFS, spark, airflow)**. Created a **Data Engineering + ML Pipeline** POC for automating model training in child welfare (**scikit-learn and PyTorch**)
- Leveraging **HDFS, PySpark and Airflow** in a **medallion architecture** setup to obtain a data model for analytics and ML.
- Used **Kubernetes** to deploy scalable **Elasticsearch**, using + **20 pods**.
- Created a scalable search and indexing solution that handles **indexing +1 billion documents** for **3 clients** by devising a solution that is **~8 times faster than the original**. Orchestrated **ETL** using **Airflow with the help of PySpark and Azure Functions**.
- Used **Kafka** to send **CDC messages** to **microservice endpoints** for real time index updates (**+100 messages/second**).
- Identified and fixed inefficient operations by analyzing distributions, **~15x performance improvement** with custom json serializer and caching.

Data Science Intern, R&D

May 2023 – Aug 2023

CCC Intelligent Solutions

Chicago, Illinois

- Worked on **cutting-edge Deep Learning** projects, using **LangChain, AWS, Azure, PyTorch and the transformers libraries** within an **auto-insurance and medical claim context**, **impact** is estimated to be **+\$1,000,000**.
- Created a **Full Stack AI** app with **Natural Language Processing, Computer Vision and Large Language Model** features.
- Worked on an end-to-end **time series forecasting transformer** for claim cost prediction targeting different car models with **sMAPE 0.06**.

Software Engineer, Machine Learning Intern

Jul 2022 – Dec 2022

Kaplan Institute, GradpathAI

Chicago, Illinois

- Led a team of Professors and Graduate students to develop a **Full-stack AI app for automating class registration at Illinois Tech**.
- Devised a **hybrid recommender system**, expected to **reduce graduation time by 1 semester** for **1st generation college students**.
- Implemented an analytics tool for students to view grade distributions in a given course. Used **React, Flask, AWS, LLMs, and PyTorch**.

EDUCATION

STANFORD UNIVERSITY

April 2025 - Present

- **AI Graduate Program**
Relevant Courses: Machine Learning. **Planned:** Mining Massive Data Sets, Deep Generative Models and Reinforcement Learning

ILLINOIS INSTITUTE OF TECHNOLOGY

2023

- **B.S. in Computer Science (3.91/4.0) and M.S. in Artificial Intelligence (4.0/4.0)**
Relevant Courses: Machine Learning, Deep Learning, Natural Language Processing, Advanced Artificial Intelligence, Big Data Technologies, Social Network Analysis, Software Engineering, Programming Paradigms and Patterns, Algorithms, and Data Integration, Warehousing and Provenance.

PROJECTS

HackMIT Best Generative AI Data Analysis Hack winner, Generative AI Full-Stack project.

Sep 2023

- Implemented a full-stack app which provides customized learning for STEM students leveraging LLMs. **Won the award among 1078 competitors at the Massachusetts Institute of Technology.**

TECHNOLOGIES: Python, LangChain, Google Cloud, Mathpix, AssemblyAI, and React.js

Kaggle Competition EDA / 17 ML models + DNN implementation (Gold Medal Kernel)

Jun 2022 – Aug 2022

- Achieved **top 7% performance**, awarded **Kaggle Expert Rank** and became the **top 20** most upvoted user among **+3000 submissions**.

TECHNOLOGIES: Python, Keras, TensorFlow, matplotlib, seaborn, LaTeX, numpy, scipy, and scikit-learn

CERTIFICATIONS AND AWARDS

- **Mentor and Judge Hack Massachusetts Institute of Technology 2024**
- **Hackathon Massachusetts Institute of Technology Best Generative AI project Award**
- **Kaggle Expert**, ranked 635th out of 308,366 users (Kernels)
- **Azure Data Science Associate (DP 100)**, AWS Certified Cloud Practitioner
- **Machine Learning Engineering for Production (MLOps) Specialization DeepLearning.AI**
- **Upsilon Pi Epsilon recognition of outstanding talent in Computer Science**

SKILLS

- **PROGRAMMING LANGUAGES:** Python, R, C#, JavaScript, Java, and C.
- **FRAMEWORKS:** React, React Native, Node.js, Express.js, FastAPI, Angular, Vue, ASP.NET
- **LIBRARIES:** TensorFlow and Keras, TFX, PyTorch, Pandas, NumPy, scikit-learn, Matplotlib, OpenCV, Plotly, PySpark, and Scipy.
- **TOOLS AND TECHNOLOGIES:** MySQL, Airflow, Azure, AWS, MongoDB, Elasticsearch, Kubernetes, Kafka, Snowflake, Mlflow and Hadoop