

# Victor Samsonov

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## EXPERIENCE

### Software Engineer Machine Learning Intern

July 2023 – Current

#### Kaplan Institute

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** for suggesting students the best course for them to **graduate on time/early.**
- Created an analytics tool for students to view grade distributions in a given course. **Used React, Flask, AWS, LLMs, and PyTorch.**

### Data Science R&D Intern (Full Stack Data Science)

May 2023 – Current

#### CCC Intelligent Solutions

Chicago, Illinois

- Worked on **cutting-edge Data Science** projects, using **LangChain, AWS, Azure, PyTorch and the transformers libraries** within an **auto-insurance and medical claim context**, estimated to have a **+\$1,000,000 impact.**
- 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.**

### Artificial Intelligence Engineer Intern

May 2022 – Dec 2022

#### Janova GMBH

Jena, Germany

- Used **Python, Tensorflow, Azure ML, and Azure Blob Storage** to develop AI solutions for a **smart table tennis racket app.**
- Improved the Data Processing pipeline with **data augmentation** and implemented a **DNN** for hit and type of swing detection, achieving **98.9%** accuracy resulting in **winning awards** such as **The Berlin Startup-Night, securing over €120,000.**
- Implemented the **Versatile Quaternion Filter** in a weakly supervised learning context for **IMU pose estimation (5.32° RMSE).**

### Research Assistant (Data Science and Computational Mathematics)

May 2022 – May 2023

#### Illinois Institute of Technology, Department of Mathematics

Chicago, Illinois

- Worked with a group of professors on the topic of **“Energetic Variational Gaussian Process Regression”.**
- Created simulations ranging from linear data to complex borehole with **PyTorch** and **GPyTorch** Achieved **MAE of 6.8.**
- Contributed to biweekly meetings and presented results to the IIT College of Computing.

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## PROJECTS

### Squeeze and Excitation Networks, Deep Learning Project

Sep 2022 – Dec 2022

- Implemented **SOTA Squeeze and Excitation Network Architecture** with the **ImageNet** dataset, **21.3%** increase in accuracy.

**TECHNOLOGIES:** Python, PyTorch, matplotlib, seaborn, and LaTeX

### Deep Learning Movie Recommender Systems, Machine Learning/ Deep Learning Project

Oct 2022 – Dec 2022

- Implemented multiple **Deep Learning Recommender systems** for the **Movie Lens** dataset, achieved **MAE of 0.741.**

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

### 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

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## EDUCATION

### ILLINOIS INSTITUTE OF TECHNOLOGY

December 2023

- **M.S. in Artificial Intelligence, GPA: 4/4**

Relevant Courses: Machine Learning, Deep Learning, Natural Language Processing, Advanced Artificial Intelligence, Big Data Technologies, Social Network Analysis, Generative AI, Machine Learning Practicum, and Data Integration and Warehousing.

- **B.S. in Computer Science, GPA: 3.91/4**

Relevant Courses: Data Structures, Algorithms, Discrete Mathematics, Multivariable Calculus, Linear Algebra, Probability and Statistics, Intro to Machine Learning, Data Mining, Database Organization, Systems Programming, Operating Systems, and Software Engineering.

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## CERTIFICATIONS AND AWARDS

- **AWS Certified Cloud Practitioner**
- **Machine Learning Engineering for Production (MLOps) Specialization DeepLearning.AI**
- **Google Generative AI**
- **Upsilon Pi Epsilon recognition of outstanding talent in Computer Science**

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## SKILLS

- PROGRAMMING LANGUAGES: Python, R, F#, JavaScript, Java, Haskell, Racket, C.
- FRAMEWORKS: React, React Native, Node.js, Express.js., Rest API, FastAPI.
- LIBRARIES: TensorFlow and Keras, TFX, PyTorch, Pandas, NumPy, scikit-learn, Matplotlib, OpenCV, Plotly, PySpark, and Scipy
- TOOLS AND TECHNOLOGIES: Git, MySQL, Azure, AWS, MongoDB, Power BI, Tableau, Kafka, Snowflake, and Hadoop
- LANGUAGES: English, Spanish, Serbian, and Croatian.