Victor Samsonov

Chicago IL • (872) 258 4810 • vsamsonov@hawk.iit.edu • github.com/victorsamsonov • victorsamsonov.github.io/portfolio • **kaggle.com/vicsonsam**

EXPERIENCE

Research Assistant (Data Science and Computational Mathematics) *May* 2022 – *Dec 2022*
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.

Artificial Intelligence Developer Intern *May* 2022 – *Aug-2022*
Janova GMBH Jena, Germany

- **Used Python, Tensorflow, Azure ML, and Azure Blob Storage** to develop AI solutions for a smart table tennis racket that tracks the players progress and analyzes their technique.
- Improved the Data Processing pipeline by performing **data augmentation** and implemented a **DNN** for hit and type of swing detection, achieving **98.9%** accuracy resulting in a successful demo and **winning the Berlin Startup-Night**.
- Implemented the **Versatile Quaternion Filter in a weakly supervised learning context** for **IMU pose estimation (5.32° RMSE).**

PROJECTS

Squeeze and Excitation Networks, ***Deep Learning Project*** *Sep* 2022 – *Dec 2022*

- Used **Python** and **PyTorch** to implement a **SOTA** Neural Network.
- Implemented **Squeeze** and **Excitation** steps which recalibrate the channel-wise feature map. Devised final report in **LaTeX**.
- Compared the performances between ResNet-50 and SE-ResNet-50, which resulted in a **21.3% increase in accuracy**.

Deep Learning Movie Recommendation Systems, ***Machine Learning/ Deep Learning Project*** *Oct* 2022 – *Dec 2022*

- Implemented collaborative recommendation systems for the Movie Lens dataset using Python, scikit-learn and TensorFlow.
- Implemented multiple Deep Learning Recommendation systems with Embedding layer. **Achieved MAE of 0.741**.
- Presented results in a detailed 8-page final report (EDA, model performance, training and validation plots, etc.)

Kaggle Spaceship Titanic Competition EDA | 17 ML models + DNN implementation (Gold Medal Kernel) *Jun* 2022 – Aug *2022*

- Participated in a Kaggle Competition and **achieved top 7% performance, awarding me with the Kaggle Expert rank**.
- Performed in-depth **EDA, feature engineering, ensembles, and hyperparameter tuning**. Final model resulted in **81% acc.**
- Devised a kernel which became the **top 20 most upvoted among +3000 submissions**.

"SUMO" HackRice 11, ***Software Engineering and NLP Project*** *Sept* 2021 – Sept *2021*

- Participated in a hackathon hosted by Rice university earning an **honorable mention among more than 200 participants**.
- Implemented an **NLP** application which summarizes video lectures for students
- Used **React.js** for the Frontend. **Google Cloud, Azure extractive summarization API** and **Flask** were used in the Backend

EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY *December* 2023

- **Masters in Artificial Intelligence**, **GPA: 4.0/4.0**
  Relevant Courses: Machine Learning, Deep Learning, Natural Language Processing, Advanced Artificial Intelligence, Data Preparation and Analysis, Probabilistic Graphical Models, and Data Mining.

- **Bachelors in Computer Science, GPA: 3.80/4.0**
  Relevant Courses: Data Structures and Algorithms, Algorithms, Discrete Mathematics, Multivariable Calculus, Linear Algebra, Probability and Statistics, Differential Equations, Database Organization, and Software Engineering.

CERTIFICATIONS

- ***Machine Learning Engineering for Production (MLOps) Specialization DeepLearning.AI, Coursera***
- ***Deep Learning A-Z: Hands-On Artificial Neural Networks***
- ***Machine Learning A-Z: Hands-On Python & R In Data Science***

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, Matplotlib, Plotly, PySpark, scikit-learn, Scipy, and OpenCV.
- TOOLS AND TECHNOLOGIES: Git, MySQL, Azure ML, Azure Blob Storage, Power BI, Hadoop, and IBM Watson Studio.
- SOFT SKILLS: Driven, Collaborative, Self-motivated, Time Management, Problem-Solving, Culture, Analytical Thinking
- LANGUAGES: English, Spanish, Serbian, and Croatian.