Victor Samsonov

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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   Chicago, Illinois
- **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, which **improves CNNs performance by 25%.**
- Implemented **Squeeze** and **Excitation** steps which recalibrate the channel-wise feature map. Devised final report in **LaTeX**.
- Evaluated performance between vanilla 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, performance, 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**.

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.

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 and IBM Watson Studio.
SOFT SKILLS: Driven, Collaborative, Self-motivated, Time Management, Problem-Solving, Culture, Analytical Thinking
LANGUAGES: English, Spanish, Serbian, and Croatian.

CERTIFICATIONS

- *Machine Learning Engineering for Production (MLOps) Specialization (90 hours)*
- *Deep Learning A-Z: Hands-On Artificial Neural Networks (22.5 hours)*
- *Machine Learning A-Z: Hands-On Python & R In Data Science (44.5 hours)*