

# Markiyan Kostiv

## Lead Machine Learning Engineer

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### Summary

Machine Learning Engineer with experience in leading research and software engineering teams. These days, I am most passionate about computer vision problems and generative AI. I have experience deploying highly efficient systems on the edge and designing systems in the cloud for large user bases.

### Work experience

Engineering Manager, Machine Learning  
Linearity GmbH Dec 2021 - Present

Tech stack: PyTorch, Airflow, AWS, C++, OpenCV, CoreML, Swift

- Building ML expertise inside a company from scratch: hiring team, managing budget, and roadmap

- Researching and deploying features based on the custom fine-tuned [generative diffusion](#) models

- Delivered a one-click experience for a set of image vectorization algorithms. Shipped a brand-new [auto trace algorithm for illustrations](#).

- Delivered a [one-click background removal](#)

Sr. Machine Learning / Computer Vision Engineer  
Kuna Systems April 2021 - Dec 2021

Tech stack: PyTorch, AWS, OpenCV, C++

- Launched data collection and annotation pipelines
- Speeded up the model inference time **9x** while reducing the error rate by **15%**
- Built pipelines for model training and end-to-end evaluation

Lead Machine Learning Engineer  
SoftServe November 2018 - March 2021

Tech stack: PyTorch, GCP, AWS, Azure Machine Learning, CoreML, SEG, BigQuery, TensorFlow, Python, C++

- Working with Fortune 500 companies from North America and Europe, doing onsite discoveries and AI projects.
- Led the development of the active-learning pipeline for semantic segmentation of 3D seismic data from the PoC phase to the first major release. Grew the engineering team from 3 to 12 members.
- Led the development of instance segmentation of roof facets, scoped, and organized annotation flow.
- Worked on image enhancement for mobile/desktop devices with GANs: deblurring, compression artifacts removal.
- Worked on a reinforcement learning PoC for production automation.

Co-Founder, CEO  
CropSaver January 2018 - March 2020

- Led and shipped an AI system that is being used to count and detect plants using drone images from ~400 000 ha of sunflower and cornfields. Organized the data gathering and labeling process, with 15 people involved. In 4 months, the system has been launched and now is the primary source of information about the sowing status for the largest sunflower producer in the world.

Research Intern  
Queens University / Scotiabank, Toronto Aug 2018 - November 2018

- Worked on a CLV prediction engine for credit limit optimization inside a Scotiabank. Responsible for survival and revenue prediction models

Lead Software Engineer  
N-iX June 2017 - July 2018

- Reverse-engineered binary communication protocol for MFi and BLE devices
- Designed and implemented architecture for iOS and Android applications
- Led engineering team of 4 people

### Job-related Skills

- *Programming Languages:* Python, Swift, Objective-C, C++
- *Libraries/Frameworks:* PyTorch, OpenCV, Keras, scikit-learn, pandas

### Honors & Awards

- [International Innovation Challenge](#), Toronto 2017 - 1st place  
Project: Crop Saver - AI for Plant Disease Recognition
- PyTorch Annual Hackathon 2021 - 3rd place, [Heyoh camera for Mac](#)

### Certifications

2018 - International English Language Testing System (IELTS 8.0) - C1 (CEFR)  
2023 - UCU Product Management Summer School

### Publications

ActGAN: Flexible and Efficient One-shot Face Reenactment (IWBF 2020)

Software Engineer

August 2014 - May 2017

Vakoms

- Worked with early-stage startups, developed iOS applications from scratch to the AppStore submission. Started as an intern in 2014 and by 2017 led the iOS development team of 3 members.

## Education

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Master's Degree

2017 - 2019

[Ukrainian Catholic University](#)

Computer Science with specialization in Data Science

Bachelor's degree

2013 - 2017

[Lviv Polytechnic National University](#)

Software Engineering

