Roman V.
Senior Data Scientist

SUMMARY

- Software engineer with 6 years of experience in data science and computer vision.
- Proficient in Python, C++, and various data science libraries such as NumPy, Pandas, and scikit-learn.
- Experienced in developing real-time computer vision algorithms for iOS and Android devices.
- Skilled in dataset gathering, neural network training, and model optimization using Inference Triton Server.
- Developed and integrated a face reenactment algorithm for photo editing.
- Familiar with DevOps and MLOps tools such as AWS, Docker, and Google Cloud.
- Holds a Master's degree in Data Science and a Bachelor's degree in Computer Science from Ukrainian Catholic University.

SKILLS

Main Technical Skills	Python (6 yr.), OpenCV (6 yr.), Pandas (6 yr.)
Programming Languages	C++
AI & Machine Learning	NumPy, PyTorch, Scikit-learn, Xgboost
Python Frameworks and Libraries	Matplotlib, NumPy, Pillow, PyTorch, Scikit-learn, SciPy
Data Analysis and Visualization Technologies	Databricks
Databases & Management Systems / ORM	AWS DynamoDB, FireStore, PostgreSQL
Cloud Platforms, Services & Computing	Matillion
Amazon Web Services	AWS DynamoDB, AWS EC2, AWS EMR, AWS Glue, AWS S3
Azure Cloud Services	Databricks
Google Cloud Platform	Google Cloud AI, Google Cloud Pub/Sub
Virtualization, Containers and Orchestration	Docker, Terraform

Version Control	Git
Operating Systems	Linux
Other Technical Skills	Faiss, NLP (6 yr.), Statsmodels

WORK EXPERIENCE

Computer Vision Engineer, Visual Object Tracking Algorithm

Duration: Feb 2020 - Present
Summary: Researched and developed a visual object tracking algorithm that operates in real-time on iOS and Android devices while maintaining near state-of-the-art results on popular benchmarks.
Responsibilities: Researched and developed a visual object tracking algorithm; Organized dataset gathering pipelines and managed neural network training lifecycle; Researched and developed a real-time human segmentation algorithm on mobile devices; Optimized ML/CV models efficiency and API request handling using Inference Triton Server; Researched, developed, and integrated a face reenactment algorithm; Integrated embeddings storage on production using Milvus for efficient text-video visual search; Prototyped lightweight visual demos with ML/CV models for stakeholders using Retool; Developed multi-step approaches for image generation using Stable Diffusion XL model fine-tuned on user data.
Technologies: Python, NumPy, OpenCV, Torch, PyTorchcv, PyTorch-lightning, Torchmetrics, Pandas, scikit-learn, kornia, NLP, matplotlib, Pillow, scipy, album entations, diffusers, transformers, accelerate, Faiss, annoy, xgboost, PostgreSQL, torchvision, AWS (EC2, EMR, S3, Glue, DynamoDB), Docker, Matillion ETL, Databricks, Google Cloud (Storage, Firestore, PubSub), Linux, Git, Triton Inference Server, hydra, statsmodels, Terraform

Computer Vision Engineer, Real-time Human Segmentation Algorithm

Duration: Feb 2020 - Present
Summary: Researched and developed a real-time human segmentation algorithm on mobile devices.
Responsibilities: Researched and developed a real-time human segmentation algorithm on mobile devices.
Technologies: Python, NumPy, OpenCV, Torch, PyTorchcv, PyTorch-lightning, Torchmetrics, Pillow, mlflow, W&B, torchvision, album entations, kornia, NLP

Computer Vision Engineer, ML/CV Models Optimization

Duration: Feb 2020 - Present
Summary: Optimized ML/CV models efficiency and API request handling using Inference Triton Server.
Responsibilities: Optimized ML/CV models efficiency and API request handling using Inference Triton Server.
Technologies: Python, diffusers, transformers, xformers, accelerate, scipy, scikit-learn

Computer Vision Engineer, Face Reenactment Algorithm

Duration: Feb 2020 - Present
Summary: Researched, developed, and integrated a face reenactment algorithm.
Responsibilities: Researched, developed, and integrated a face reenactment algorithm.
Technologies: Python, diffusers, transformers, xformers, accelerate, scipy, scikit-learn

Computer Vision Engineer, Embeddings Storage Integration

Duration: Feb 2020 - Present
Summary: Integrated embeddings storage on production using Milvus for efficient text-video visual search.
Responsibilities: Integrated embeddings storage on production using Milvus for efficient text-video visual search.
Technologies: Python, diffusers, transformers, xformers, accelerate, scipy, scikit-learn

Computer Vision Engineer, Visual Demos using Retool

Duration: Feb 2020 - Present
Summary: Prototyped lightweight visual demos with ML/CV models for stakeholders using Retool.
Responsibilities: Prototyped lightweight visual demos with ML/CV models for stakeholders using Retool.
Technologies: Python, diffusers, transformers, xformers, accelerate, scipy, scikit-learn

Computer Vision Engineer, Image Generation using Stable Diffusion XL Model

Duration: Feb 2020 - Present
Summary: Developed multi-step approaches for image generation using Stable Diffusion XL model fine-tuned on user data.
Responsibilities: Developed multi-step approaches for image generation using Stable Diffusion XL model fine-tuned on user data.
Technologies: Python, diffusers, transformers, xformers, accelerate, scipy, scikit-learn

Computer Vision Engineer, Real-time Object Detection and Clothes Search

Duration: Apr 2019 - Feb 2020
Summary: Developed real-time algorithms for simultaneous multiple object detection, identification, and tracking on a customer video.
Responsibilities: Developed real-time algorithms for simultaneous multiple object detection, identification, and tracking on a customer video; Built an efficient algorithm for clothes search and matching across a large database of the given user-taken photo; Implemented pipeline for clothes detection, tagging (color, texture, fabric), and segmentation.
Technologies: Python, Faiss, annoy, NumPy, matplotlib, OpenCV, Pandas, torch, PyTorch-lightning, album entations, AWS (S3, EC2), Docker

Computer Vision Engineer, Customer Conversion Rate Prediction

Duration: Oct 2018 - Apr 2019
Summary:

- Worked with large text datasets and AutoML approaches which estimate crucial business metrics
- Built automation pipelines for report generation using AWS tools (EC2, EMR, S3, Glue, DynamoDB), Matillion ETL, and Databricks
- Worked with time series data to estimate future sales for businesses

Responsibilities: Worked with large text datasets and AutoML approaches which estimate crucial business metrics; Built automation pipelines for report generation using AWS tools (EC2, EMR, S3, Glue, DynamoDB), Matillion ETL, and Databricks; Worked with time series data to estimate future sales for businesses.
Technologies: Python, matplotlib, xgboost, NumPy, PyTorch-lightning, Databricks, AWS (S3, Glue, DynamoDB, EC2, ECR), Matillion ETL, statsmodels

Research Intern, Indoor Navigation using RL

Duration: Jun 2018 - Oct 2018
Summary: Implemented reinforcement learning algorithms for indoor navigation algorithms in different environments (Minos, Gibson).
Responsibilities: Implemented reinforcement learning algorithms for indoor navigation algorithms in different environments (Minos, Gibson).
Technologies: Python

EDUCATION

- **Ukrainian Catholic University**
  M aster's D egree in D ata Science
  Sep 2020 - Jun 2022
- **Ukrainian Catholic University**
  Bachelor's D egree in Com puter Science
  Sep 2016 - Jun 2020

CERTIFICATION

- **ECCV 2022: FEAR: Fast, Efficient, Accurate, and Robust Visual Tracker**
- **One-shot Facial Expression Reenactment using 3D Morphable Models**
- **NoGAN: Deblurring Images without Adversarial Training**