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YURY PUSHKARENKO – AI ARCHITECT & ENGINEERING LEADER

SUMMARY

- Overall, 15 years of experience in solution architecture, software development with top domains expertise (Logistic Optimization, Routing, Geo spatial solutions, Finance).

- Hands-on leader who architects, builds and scales cloud-native AI/ML systems for navigation, geospatial intelligence and supply chains logistic optimization. Blend of deep technical expertise (Python/C++/AWS/ML Ops) and strategic leadership - hiring and mentoring 30 + engineers, managing R&D budgets, and accelerating product delivery by double-digit factors.

AREAS OF EXPERTISE

- Computer Vision & Deep Learning (CNNs, ViTs, Transformers, LLMs, GANs, Diffusion models, 3D reconstruction, SLAM, etc.).

- Cloud & Edge AI Architecture (AWS, Kubernetes, Embedded).

- Data mining, data quality, quality assurance of data pipelines (Self-supervised learning, Cluster analysis, Geospatial mining, Ensemble algorithms, etc.)

- Geospatial & Routing Algorithms | Map-making Automation.

- Big-Data Processing (Spark, Flink, Kafka) & Real-time Analytics.

- Technical Leadership: People Management, Budgeting, KPI/OKR design.

- Process Excellence: Agile @ Scale, CI/CD, Test-Driven Development.

Technical/Research Background:

Python, C++, Java 12; AWS stack; OpenCV, TensorFlow, PyTorch; Elastic Search; Hexagonal/ H3 indexes; KD-Trees; IBM Watson DeepQA; Kafka, Spark, Flink; Oracle & NoSQL DBs; RTOS; Linux.

WORK EXPERIENCE

HERE Technologies (via Intellias) —   Solution Architect / Principal Engineering

Kyiv · Jun 2019 – Present

- Architected a triple-nine (99.9 %) - available map-making platform on AWS, serving > 120 M navigation users.

- Cut map-generation cycle 10× (weeks → < 24 h) by introducing scalable multi-source data-fusion pipelines.

- Optimized spatial-data comparison via KD-Trees & H3, reducing compute costs 60 % and runtime 75 %.

- Built a 30 +-person cross-functional team (PhDs, senior engineers) and instituted OKR-driven performance culture.

- Established quantitative quality-assessment framework - doubling release confidence and enabling SLA-based delivery.

Taras Shevchenko National University of Kyiv — Lecturer & Research fellow

Kyiv · Jun 2020 – Present (Part-time)

- Developed GPS-spoof-resilient navigation models for Black Sea UAV fleet under NATO *Science for Peace & Security* grant.

- Researched and implemented diffusion models and GANs for synthetic geospatial imagery generation, enriching training datasets and boosting UAV detection recall by 12 pp.

- Developed damage assessment computer vision system and 3D reconstruction for high-spatial resolution satellite imageries.

- Designed and deployed real-time 3D-reconstruction pipeline from multi-view aerial imagery (sub-10 cm mesh accuracy).

- Co-authored 3 internal patents on vision algorithms memory efficiency improvements/(pending).

- Conducting and leading government grants research projects with 30+ students' team.

Thomson Reuters / Refinitiv (via EPAM) — Technical Lead

Kyiv · Jun 2018 – Jun 2019

- Unified IBM Watson DeepQA with early GPT-based LLMs, halving legal-entity background-check time in *World-Check One*.
- Fine-tuned RNN compliance-screening models, boosting precision +9 pp.
- Led 15 engineers: defined cloud migration roadmap to AWS.

Thomson Reuters (Westlaw) (via EPAM) — Senior Software Developer / Key Engineer

Kyiv · Jun 2017 – Jun 2018

- Migrated legacy search ecosystem to AWS, **cutting infra costs ~30 %**.

- Implemented smart legal-search features using IBM DeepQA, architecture team key engineer.

- Mentored 5-person dev team through search engines integration process.

Larch-Networks — Senior Software Engineer

Kyiv, Tel Aviv · Jun 2014 – Jun 2017

- Developed low-memory BGP & OSPF stacks for SMB switches; shipped to Cisco SMB & MRV OEMs (200 k units +).

- Reverse-engineered competitor switches to inform product roadmap.

Piraeus Bank ICB   —   Senior Software Engineer (InfoSec)

Kyiv · Jun 2008 – Jun 2014

- Built Java-based financial-risk tools and first ML fraud-detection prototypes (self-organizing maps).
- Developed Java-based data mining framework for financial and credit data background check.

EDUCATION

Name of the Education Establishment: Taras Shevchenko National University of Kyiv

Faculty/College: Computer Science and Cybernetics

Degree (diploma): PhD in Computer Science

Direction: Computer Sciences, AI

Name of the Education Establishment: National Aviation University

Faculty/College: Informational Security of Computer Systems and Networks

Degree (diploma): Master's Degree

Direction: Computer science