Zakhar Pashkin

Senior Computer Vision Engineer | Production ML & Edge AI

Yerevan, Armenia | kaisenaiko@gmail.com | zack-dev-cm.github.io | linkedin.com/in/zakhar-pashkin-a524a6163 | github.com/zack-dev-cm | t.me/rheuiii

SUMMARY

Senior Computer Vision Engineer with 7+ years of experience shipping OCR, segmentation, detection, edge inference, data pipelines, and production ML services. Strongest in the path from research code to reliable product: model selection, dataset quality, mobile conversion, API deployment, monitoring, review gates, and rollback-ready releases.

CORE STACK

Computer vision: OCR, segmentation, detection, landmarking, tracking, face anti-spoofing, neural search, multimodal CV

Edge/mobile: ONNX, TFLite, CoreML, TensorRT, PyTorch Mobile, quantization, mobile inference profiling, Flutter/Android/iOS integration

Modeling: PyTorch, TensorFlow/Keras, OpenCV, YOLO, MMDetection, CLIP/VLMs, Transformers, diffusion-assisted pipelines

Production: FastAPI, Tornado, REST/gRPC, Docker, Kubernetes, GitHub Actions, GCP, AWS, Cloud Run, monitoring, CI/CD, MLOps

EXPERIENCE

Senior Computer Vision & AI Engineer

Jun 2022 - Present

Various Startups - selected startup, independent, and direct client engagements

- Delivered CV/ML systems across segmentation, detection, OCR, landmarking, face search, neural search, multimodal AI, data pipelines, and edge deployment.
- Built or modernized models and services for user-facing products where scale, latency, and release reliability mattered.
- Optimized PyTorch/TensorFlow models for ONNX, TFLite, and CoreML deployment, with mobile inference targets up to 50-60 FPS in OCR and segmentation flows.
- Reduced labeling cost by up to 80% with active-learning and auto-annotation pipelines; released tooling around interactive segmentation and OCR workflows.
- Delivered FastAPI/Tornado services, Docker/Kubernetes deployments, GCP/AWS infrastructure, CI/CD, and monitoring for production ML and AI automation systems.
- Added review gates for high-risk AI delivery: benchmark checks, human approvals, browser evidence, rollback criteria, and promotion decisions before release.

Computer Vision Engineer

Jun 2019 - Jun 2022

CFT - Akademgorodok, Novosibirsk

- Developed classification, object detection, OCR, segmentation, and document-recognition algorithms for fintech and mobile products.
- Optimized energy-meter OCR and segmentation models for stable 50-60 FPS on mid-range smartphones.
- Built masked face anti-spoofing research systems with 97-98% accuracy and FAR below 1%; contributed Cyrillic offline signature verification with EER around 4-5%.
- Improved specialized mobile-GPU model accuracy by 1.5% with neural architecture search and deployment-focused tuning.
- Implemented CLIP pre-validation and Toloka automation, reducing labeling budgets by 3x, moderation load by 40%, and annotation time through click-driven segmentation.

Computer Vision Project Mentor

Nov 2019 - Jun 2022

CFT apprenticeship corporate program - Part-time

- Mentored pre-internship engineers on production-style CV projects including mobile energy-meter recognition, crowdsourcing with neural networks, and Cyrillic handwriting OCR.
- Reviewed model choices, dataset quality, error analysis, and deployment constraints so student projects could pass engineering review rather than remain demos.

Project Mentor / Machine Learning Specialist

Oct 2018 - Oct 2019

School of AI - Remote / San Francisco Bay Area community

- Built and supported ML/DL software for analytics and online education, including Flutter product work and GCP infrastructure.
- Helped secure and operate Google Cloud support for a global AI education platform while coordinating remote contributors and volunteers.

SELECTED PROJECT EVIDENCE

Pores & Wrinkles Detection Service
High-resolution facial texture analysis with labeled overlays, async job progress, Telegram Mini App, and Flutter demo client.

CV Repro Lab Skills
Reproducible CV experiment workflow with benchmark gates, review dashboards, browser validation, and promotion decisions.

Food Recognition App
Cross-platform food recognition and nutrition OCR using mobile-friendly CV deployment patterns.

AutoToloka / shiftlab-ocr
Open-source data and OCR tooling for interactive segmentation, handwriting OCR, annotation speed, and dataset quality.

Face Anti-spoofing
CLIP and multimodal CV experiments for biometric robustness and presentation-attack research.

Android Remote Control with VLM Agents
Server-side vision-language agent loop deciding taps, swipes, and text actions from live device screenshots.

HIRING REVIEW GATES

CV depth: Can explain data, metrics, failure modes, conversion path, and edge/runtime constraints for shipped OCR, segmentation, and detection work.

Production readiness: Shows APIs, monitoring, CI/CD, rollback criteria, benchmark thresholds, and human-review points instead of demo-only claims.

Evidence quality: Portfolio projects link to concrete systems, screenshots, release artifacts, metrics, or public repos without relying on marketplace counters.

EDUCATION & CERTIFICATIONS

Siberian Federal University, 2007-2012. Additional professional training includes TensorFlow, Deep Learning and Computer Vision, SQL, JavaScript, Kubernetes on Google Cloud, and PyTorch scholarship work.