

# Zakhar Pashkin

## AI Product Engineer | Computer Vision, VLM/LLM Systems

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### SUMMARY

AI Product Engineer with 7+ years of experience shipping automation, computer vision, VLM/LLM workflows, backend services, and production ML systems. Strongest where model quality, product behavior, operator workflow, and launch reliability need one owner: dataset quality, model selection, API delivery, UI surfaces, monitoring, review gates, and rollback-ready releases.

### CORE STACK

**AI products:** VLM/LLM workflows, OpenAI APIs, agentic automation, Telegram mini apps, Chrome extensions, release gates

**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

**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

### EXPERIENCE

#### AI Product Engineer & Senior Computer Vision Engineer

Jun 2022 - Present

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

- Delivered AI product systems across automation, segmentation, detection, OCR, landmarking, face search, neural search, VLM/LLM workflows, data pipelines, and edge deployment.
- Built or modernized models, APIs, operator workflows, and user-facing product surfaces where scale, latency, and release reliability mattered.
- Optimized PyTorch/TensorFlow models for ONNX, TFLite, and CoreML deployment, with mobile inference targets up to 50 to 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, AI automation, and launch workflows.
- Shipped public OpenClaw/ClawHub release systems, including a downloads tracker showing 1,421 public ClawHub downloads across 11 packages as of 2026-04-24.
- 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 to 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.

#### Machine Learning Project Mentor

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

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### GitHub + ClawHub Downloads Tracker

CLI/reporting flow that tracks GitHub traction, live ClawHub downloads, publisher stats, deltas, and 30-day scenarios.

### CV Repo Lab Skills

Reproducible CV experiment workflow with benchmark gates, review dashboards, browser validation, and 466 public ClawHub downloads across two packages.

### Pores & Wrinkles Detection Service

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

### Food Recognition App

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

### Android Remote Control with VLM Agents

Server-side vision-language agent loop deciding taps, swipes, and text actions from live device screenshots.

### AutoToloka / shiftlab-ocr

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

## RECRUITER EVIDENCE CHECKS

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**AI product scope:** Owns model, backend, workflow, UI, and launch reliability rather than stopping at notebooks or demos.

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

**Evidence quality:** Portfolio projects link to public repos, release artifacts, screenshots, dated counters, and review gates without publishing private client data.

## EDUCATION & CERTIFICATIONS

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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.