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# Hilkov Ivan Andreevich

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Lead Frontend Engineer

## Contact Information

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## Executive Summary

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Frontend engineer with over **17 years** of professional experience across high-tech startups and large corporations. Demonstrated expertise in delivering complex software products from architectural design through deployment and long-term maintenance.

**Leadership Experience:** Team management of up to 8 engineers in distributed environments, with focus on process optimization and knowledge transfer.

**Core Philosophy:** Strategic balance between technical excellence and business objectives, emphasizing measurable results and user-centric solutions. Proven track record of performance under pressure with emphasis on evidence-based decision making.

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## Technical Competencies

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### Frontend Technologies

- **Core Frameworks:** React, React Native, Next.js, Redux

- **Languages:** TypeScript, JavaScript (ES6+)
- **Build Systems:** Vite, Webpack, Rollup
- **Styling Solutions:** TailwindCSS, CSS-in-JS, SCSS
- **Testing Frameworks:** Cypress, Jest, React Testing Library

## Backend & Infrastructure

- **Python Stack:** FastAPI, Django, Flask
- **Node.js Ecosystem:** NestJS, Express
- **Database Systems:** PostgreSQL, Redis, MongoDB
- **Message Queues:** Celery, RabbitMQ
- **DevOps:** Docker, CI/CD pipelines, GitHub Actions

## Specialized Domains

- **Geospatial Technologies:** Cesium, Mapbox, Leaflet, Potree
- **Media Processing:** FFmpeg, gPhoto2
- **Hardware Integration:** LTE modems, Raspberry Pi, IoT devices
- **Mobile Development:** React Native (iOS/Android)

## Professional Skills

- **Team Leadership:** Agile methodologies, code review processes, mentorship
- **Project Management:** Technical roadmap planning, cross-functional collaboration
- **Communication:** Technical documentation, stakeholder presentation
- **Languages:** Russian (native), English (B2 level)

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## Professional Experience

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### HRONIKA | Moscow

**Frontend & Full-stack Engineer** | *April 2025 — Present*

**Project Overview:** Development of autonomous timelapse photography system for construction and infrastructure monitoring.

#### Technical Achievements:

- Engineered prototype of autonomous timelapse system using Raspberry Pi 4, Canon 1100D, and LTE connectivity
- Implemented pull-based architecture for task distribution and cloud-based RAW image storage
- Integrated PyNET-CA (PyTorch) for adaptive RAW processing, achieving 30% reduction in 4K timelapse assembly time
- Developed responsive web application using React, HeroUI, and TailwindCSS
- Architected fault-tolerant backend infrastructure with FastAPI and Celery/Redis

- Designed Bill of Materials for autonomous power management including UPS HAT, Li-ion batteries, IP67 enclosure
- Prepared comprehensive technical documentation and successfully qualified for Sber500 accelerator program

Website: [hronika.tech](https://hronika.tech)

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## Tekara | Moscow

Frontend Lead Engineer | May 2024 — May 2025

**Project Overview:** E-commerce platform for industrial machinery and spare parts distribution.

### Technical Achievements:

- Developed comprehensive catalog system and shopping cart functionality, resulting in 15% conversion improvement
- Established and maintained design system and UI component library for consistent user experience
- Implemented advanced anti-scraping mechanisms, achieving 75% reduction in unauthorized traffic
- Optimized server-side rendered storefront using Next.js for handling up to 70,000 requests per second
- Established CI/CD pipeline and comprehensive UI/UX testing suite using Cypress

Website: [tekara.ru](https://tekara.ru)

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## Tvigle | Moscow

Frontend Lead Engineer | May 2024 — October 2024

**Project Overview:** Cross-platform mobile video streaming application development.

### Technical Achievements:

- Led development of React Native application for iOS and Android platforms
- Implemented automated CI/CD pipeline with TestFlight integration for beta distribution
- Integrated VK Ads network with VAST 4.3 standard support for preroll, midroll, postroll, and companion banner advertisements

Website: [tvigle.ru](https://tvigle.ru)

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## START.ru | Moscow

Frontend Lead Engineer | January 2023 — May 2024

**Project Overview:** Smart TV video streaming platform and web application development.

### Technical Achievements:

- Launched "Cinema on TV" section with integrated video player for Smart TV platform
- Optimized API request patterns during high-traffic periods, achieving 40% latency reduction
- Conducted comprehensive architectural refactoring of authentication and subscription systems
- Mentored development team of 6 engineers with focus on code quality and best practices

Website: [start.ru](http://start.ru)

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## Skyeer | Moscow

Frontend Lead Engineer | April 2017 — January 2023

**Project Overview:** Geospatial data processing and drone monitoring platform development.

### Technical Achievements:

- Developed MVP of unmanned aerial vehicle monitoring system for Gazprom including user portal and map layer printing
- Created proprietary component library that was subsequently utilized across more than 5 projects
- Created user interface for waste monitoring service ([reo.ru/flyby](http://reo.ru/flyby))
- Implemented UI for UAV-based quarry road monitoring system ([technical article](#))
- Developed client-side application for cloud aerial data processing service ([attractor.aero](http://attractor.aero))
- Integrated advanced 3D visualization technologies including Cesium, Mapbox, and Potree with performance optimization
- Built and managed frontend development team of up to 8 engineers
- Established code review processes, CI/CD pipelines, and internal knowledge sharing workshops
- Achieved 89% test coverage using Selenium automated testing framework

Website: [skyeermap.com](http://skyeermap.com)

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## Sovzond | Moscow

Senior Frontend Engineer | June 2013 — May 2015

**Project Overview:** Satellite imagery archive and search platform development.

### Technical Achievements:

- Developed user interface for satellite imagery archive and search functionality using Backbone.js
- Implemented advanced geofiltering, timeline controls, and responsive mapping components
- Optimized application performance through lazy-loading and asset minification strategies

Website: [sovzond.ru](http://sovzond.ru)

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# Academic Background

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**Kuban State University** | Krasnodar

*Faculty of Theoretical Physics* | 2003 — 2009

**Relevant Coursework:** Mathematical modeling, computational physics, statistical analysis, algorithm design

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## Personal Projects

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### Shawarma Bot | TypeScript, Node.js, Telegram API

Production-ready Telegram bot with REST API for food ordering

**Technical Implementation:**

- Developed comprehensive Telegram bot using Node.js with Fastify REST API backend
- Implemented TypeScript architecture with 82.1% type coverage and 77% test coverage (619+ tests)
- Integrated PostgreSQL database with Redis caching for optimal performance
- Created Docker containerization with production deployment across 6 SSL-secured domains
- Built Telegram Mini App with responsive web interface
- Established comprehensive API documentation using Swagger UI

**Repository:** [github.com/ivan-hilckov/shawarma-bot](https://github.com/ivan-hilckov/shawarma-bot)

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### TimeLaps Box | Python, Raspberry Pi, Hardware Integration

Autonomous timelapse photography system for remote monitoring

**Technical Implementation:**

- Engineered autonomous camera system using Raspberry Pi with LTE connectivity
- Developed cloud-based image processing pipeline with automated upload mechanisms
- Implemented power management systems for extended autonomous operation

**Repository:** [github.com/helios-lab/timelapsbox](https://github.com/helios-lab/timelapsbox)

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### Showcase Bot | Node.js, Telegram API

Demonstration bot for showcasing interactive features and capabilities

**Technical Implementation:**

- Created feature-rich Telegram bot demonstrating advanced API capabilities
- Implemented modular architecture for extensible functionality

- Developed comprehensive showcase of interactive elements and user experience patterns

Repository: [github.com/ivan-hilckov/showcase-bot-main](https://github.com/ivan-hilckov/showcase-bot-main)

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## Gemini Viewer | JavaScript, 3D Graphics, WebGL

Interactive 3D visualization tool with advanced navigation controls

### Technical Implementation:

- Developed 3D visualization interface with intuitive navigation cube controls
- Implemented WebGL-based rendering pipeline for optimal performance
- Created responsive user interface with advanced 3D interaction patterns

Repository: [github.com/ivan-hilckov/gemini-viewer](https://github.com/ivan-hilckov/gemini-viewer)

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## Research Interests

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- Computer graphics and 3D visualization optimization
- Geospatial data processing algorithms
- Real-time media processing and streaming
- Human-computer interaction in complex data environments

Available for technical consultation and project collaboration