# Arsen Tomachenko

## Sr. Software Engineer

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## Profile

I am a Senior Software Engineer with over 11 years of professional experience in software development. My expertise spans web, mobile, and interactive application development, with strong hands-on experience in C# and Unity for building real-time and immersive applications. I have a deep background in video streaming and processing technologies and extensive experience handling client requirements end to end—from system architecture and development to production deployment and maintenance. Recently, I have developed a strong interest in AI-driven image and video processing, where I have already made notable progress. I approach every project with a beginner's mindset, continuously learning and striving to deliver intelligent, reliable, and high-quality solutions.

## Professional Experience

**Lead Engineer (Streaming),** *Copilot LLC*　　　　　　　　　　　　　07/2022 – 04/2025
- Modernized the back-end servers using Nel, C#, and WebSockets.
- Rewrote the website from scratch in Vue.js with ASP.NET as a back-end API - interfacing with a SQL Server database hosted on Azure.
- Added Copilot Meetings using JavaScript and WebRTC, leveraging Twilio APis.
- Managed a team of freelance consultants to augment my skills, specifically in QA, copywriting, marketing, and graphic design

**Sr Fullstack Engineer,** *TekRevol*　　　　　　　　　　　　　　　05/2018 – 05/2022
- Led development of multiple Unity-based applications using C#, delivering high-performance, cross-platform solutions for mobile and desktop environments.
- Designed and implemented core gameplay and real-time systems in Unity, focusing on performance optimization, scalability, and maintainable architecture.
- Collaborated closely with product managers, designers, and clients to translate business requirements into robust technical solutions, owning features end to end from concept to production release.
- Integrated video streaming, media playback, and real-time data processing components within Unity applications, ensuring smooth user experiences under production constraints.
- Built reusable C# frameworks and tools to accelerate development cycles and improve code consistency across projects.
- Optimized rendering pipelines, memory usage, and runtime performance, resulting in significant FPS and load-time improvements across target devices.
- Mentored junior developers in Unity best practices, C# patterns, and production-ready workflows, improving overall team productivity and code quality.
- Actively contributed to deployment, testing, and post-launch maintenance, ensuring long-term stability and client satisfaction.

**Software Developer,** *Solaborate*　　　　　　　　　　　　　　　2015 – 04/2017
Integrated Kurento Media Server, which is used for streaming live video to users using WebRTC.
- Implemented a feature for video calls that transferred from P2P to Kurento without - dropping the call. Integrated Kurento Media Server, which is used for streaming live video to users using WebRTC.

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- Transitioned the current monolith app to a microservice architecture by using a WebRTC microservice.
- Formulated and implemented transfer strategy for microservice architecture - throughout the entire application.
- Mentored and trained new and existing employees in WebRTC and real time systems.
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## Education

**Bachelor of Computer Science,** *Ivan Franko National University of Lviv*                    2011 – 2015

## Skills

### Web Frontend Development
React/Next, Vue. Svelte/Sveltekit Material UI, Tailwind CSS

### Backend Development
C/C++, C#/DotNet, Node/express.js, Python/Flask. FastAPI, Go/Golang. PHP/codeigniter, Laravel, Java/Spring

### Mobile Development
Java/Kotlin, Swift, Dart, Flutter, Objective-C

### Video Streaming Tech
WebRTC, FFmpeg, GStreamer, Twilio, Kurento, Kamalio

### DevOps
GitHub Actions, Gitlab Cl, CircleCI, Azure, AWS, GCP, DigitalOcean, JFrog, Docker, Kubernate

### Testing Framework
JS-Jest. Mocha Python Unittest, pytest Go testing (built-in), Tostify, GoConvey PHP - PHPUnit, Pest

## Languages

- Ukrainian
- English

## Projects

**Ashtanga Yoga,** *Online Yoga Learning Platform* ⧉
Developed a comprehensive wellness and yoga platform designed to deliver structured Ashtanga Yoga programs, educational content, and user engagement features. Built and maintained the backend using **.NET**, implementing secure authentication, role-based access control, and scalable APIs to support dynamic content delivery. Utilized **TYPO3 CMS** to manage yoga courses, schedules, instructor content, and multilingual pages, enabling non-technical teams to easily update and publish content. Integrated media streaming for instructional videos, optimized for performance and reliability across devices. Collaborated closely with stakeholders to refine user experience, improve site performance, and ensure maintainability and long-term scalability of the platform.

**Broadcast Live Video,** *Video Streaming Platform*
Developed and maintained a large-scale live video streaming platform enabling real-time broadcasting and monetization for content creators. Designed and optimized backend services using PHP (Laravel) and Node.js, with integrated WebRTC, HLS, and RTMP protocols for high-quality live video delivery. Implemented adaptive bitrate streaming, token-based authentication, and low-latency chat features for interactive user experiences. Managed server scaling and load balancing on AWS, improving system stability and throughput. Collaborated closely with product and DevOps teams to enhance streaming reliability and integrate payment, subscription, and analytics modules. WebRTC, Wowza Media Server, Live Streaming Setup, Javascript, Node.js, Laravel

**HimyNamelsApp,** *Social Networking & Video Chat Platform*
Developed a modern social communication app focused on real-time video chat, friend discovery, and interactive user profiles. Implemented the iOS client in Swift, integrating WebRTC for live video calls and Firebase for messaging and user presence tracking. Built scalable backend services using Node.js and MongoDB, enabling secure user authentication, content moderation, and push notifications. Optimized media streaming performance and reduced connection latency across regions using TURN/STUN servers and AWS infrastructure. Contributed to UX improvements, analytics integration, and overall system reliability to support thousands of concurrent users. Swift, Node.js, Socket.io, WebRTC

**Push Doctor,** *Online GP Consultation & Telemedicine App*
Contributed to the development and optimization of Push Doctor, a leading UK telemedicine platform enabling patients to consult with licensed doctors via secure video calls. Worked on iOS and Android app enhancements using Swift and Kotlin, improving video stability, in-app chat, and appointment booking workflows. Integrated WebRTC for real-time consultations and FHIR-compliant APIs for medical data exchange. Enhanced backend performance and scalability using Node.js, RESTful APIs, and AWS services to handle large volumes of concurrent sessions. Collaborated with product, QA, and compliance teams to ensure GDPR. HIPAA, and NHS Digital security standards were met. Contributed to achieving a smoother telehealth experience used by thousands of patients daily across the UK. Swift, Kotlin, WebRTC, Node.js, AWS

**INTCH,** *Professional Networking & Al-Powered Job/Project Matchmaking Platform*
Built intuitively to connect professionals, experts, founders, and employers via Al-matched introductions instead of cold outreach. Users can create "requests" (short pitches or offers), add video or profile media, and be matched by the algorithm with people needing their expertise or seeking collaboration. The platform supports remote & part-time work, "hidden joh" opportunities, investor/founder pitch functionality, and warm networking via communities and micro-communities. Features include subscription-based premium tools for enhanced visibility & matchmaking, social capital gamification (helping others boosts your reach), employer/expert matching for tasks rather than hiring full roles. Designed with a mobile-first/weh interface, integrating UX for ease of networking, video pitching, and community building. Scaled user base (~100-120k professionals globally) and emphasized trust, profile verification, and Al relevance in matching.