

VALENTYN SHYBANOV

Senior Software Engineer / TLM – Cloud infrastructure & Console, AI agent systems, developer experience



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About myself

- Senior software engineer and tech lead focused on cloud infrastructure and developer productivity: building resilient, reliable systems and automations that reduce delivery time from weeks to hours.
- Current focus: **Cognitive/Embodied AI** and agentic systems – tool-using agents in continuous cognitive loops, self-learning behaviors, and dynamic role switching (Vertex AI / Gemini).
- Former **Google Developer Expert** (Cloud and Web). Public speaker and workshop/hackathon organizer.
- Public speaking since 2008; speaker at dozens of conferences including JEEConf, UAWeb, Google DevFest, and BuildStuff (and helped organize some of them).

Skillset

AI/LLM: Cognitive/Embodied AI systems, Vertex AI (Gemini), tool-using agents, embeddings, vector search/RAG, evaluation & monitoring

Cloud: Platform engineering, Reliability, Resilience, Compliance, Scalability, Automation & Developer Productivity, distributed systems

Stacks: Python, Go, Java, .NET, C++, TypeScript/JS

Web: Angular, React, Lit

Cloud: Google Cloud Platform, Amazon EC2, Azure

Publications

28.01.2026

TDCommons
Technical publication

Published: January 28, 2026. [Framework for Situated Agents Using Tool-Based Perception and Interaction in a Continuous Cognitive Loop](#)

Work experience

2019 - now Google

Jan

Senior Software Engineer/TLM

- Google Cloud Platform: improved Google Cloud Console and core infrastructure, increasing scalability and reliability.
- Implemented automations that reduced engineering time from weeks to hours.
- Designed and implemented a cognitive AI system with an agentic-first approach, self-learning, and dynamic role switching.

2018 - 2018 Amazon

Feb

Dec Software Development Engineer

- Alexa Natural Language Understanding (NLU): improved reliability and latency of core components of the Amazon Alexa service.
- Focused on scalability and performance improvements in production services.

2017 - 2017 MyHeritage

Apr

Jul Web Team Leader

At MyHeritage, I was responsible for improving the front-end part of the web application and creating front-end team in Kyiv, Ukraine (hiring, onboarding).

2010 - 2017 Twinfield

Feb

Feb Solution Architect, Head of Ukrainian branch

Twinfield is an international web service for online accounting offered by Wolters Kluwer. Twinfield facilitates the collaboration between accountants and entrepreneurs by offering a state-of-the-art cloud application that allows both parties to work on the administration in a smart, simple, secure and connected way. Established in 2001, Twinfield has a strong and growing client base in the Netherlands, UK, Germany, Belgium, and the Caribbean, that all use bookkeeping software on a daily bases.

Initially, as **Regional Director**, I was responsible for managing Ukrainian developers, guiding and controlling the development process, shaping requirements.

Later, as **Software/Solution Architect**, I was responsible for making architectural decisions to bring the Twinfield application to the cloud. My area of responsibility covered both backend and front-end parts, providing a consistent solution for visual appearance and a streamlined development process. I also continuously did hands-on development by implementing critical and new components and training other developers.

Used technologies: **ASP.NET MVC, C#, AngularJS, CQRS/ES, MS SQL, RabbitMQ**.



2005 - 2009 DevelopEx
Apr Apr Team leader/Developer

DevelopEx is an outsourcing company, that provides services to worldwide clients. As part of DevelopEx, I participated in such projects:

AuctionFloor - Huge ERP project with multiple modules and complex backend made for auction house who makes live auctions. The system includes such modules as inventory module, payment, accounting, checkout, shipping, live auction software etc. It is integrated with several 3rd party APIs (eBay, USPS, UPS, FedEx, ACH payments, Paypal, CC processing gateways) and has two bidding templates (AJAX and C++) and real-time TCP/IP server software to make live auctions.

Error report - Web-module for help desk system which allows filing help desk and inventory reports to support people.

Web Order - Business management system which allows to automate purchase processes in an enterprise and integrated with 3rd party applications.

Prospero - trending component with complex graphs drawing for 3rd party application.

FlowCharting - charting component to use as DotNetNuke module.



2004 - 2005 Frontex
Aug Apr Developer

At **Frontex** I was working on **Xcelerix**: non-relational (entity-relational) in-memory database.

Targeting as ultra-fast information storage, Xcelerix used entity relational schemes to provide determined selection time for data queries, that in standard relation-based database system would require exponential growing time. Also, Xcelerix provided support to as many OS as possible, including Windows, Mac OS, different distributions of Linuxes, HP-UX. Technologies

Main technologies used in development were **C++**, **Perl**, and **Java**.



2004 - 2004 AMI Ukraine
Feb Aug Developer

In **"AMI Ukraine"** I was working on **PersonPro** - personnel management system. Enterprise-level Ukrainian fully customizable solution that handles all processes of HR: gathering, storing, publishing information, handling complex queries about personnel, preparing customizable reports, including documents of strict accountability.

Technologies used: **Delphi**, **ODBC**



2003 - 2004 Obex Corp.
Jul Jan System architect

I contributed to developing **Obex** Web application for B2B telemarketing. A distributed system, that allows customers to plan and implement telemarketing process and calculate profits. Used AJAX to accelerate system, minimize risks of concurrent modifications and make the system more user-friendly.

Technologies used: **PHP, MySQL, Design Patterns.**



2001 - 2003 Alitel
Jan May Senior Developer

In **Alitel** I was working on VoIP billing system based on Radius server. Started as the first developer of this system, and continued as head developer of a small group of developers. Mastered C++ Unix programming, database management, multi-threaded, and time-sensitive development. Also learned how to manage a group of developers (code review, planning, etc).

Technologies used: **C++ (gcc), MySQL, Radius RLM, CGI.**



1998 - 2001 Lider Ltd.
May Jan Developer

At **Lider LLC**, I was working on System for stock-taking for car-selling warehouses. The main purpose of the system was to store information about the stock status and do complex queries on searching product analogs.

Technologies used: **MS Access, Delphi, BDE (Paradox).**

Education

1997 - 2003 NTUU "KPI" Mathematics, Master of Science

National Technical University of Ukraine 'Kyyiv Polytechnic Institute' (NTUU "KPI") is one of the oldest and largest technical universities in Europe. It was founded in 1898. NTUU KPI is famous for its academic excellence and leading innovative research.

During the study in NTUU "KPI", I mastered my knowledge in mathematics and computer science. Gained **Master of Science** degree in **Mathematics** (Probability theory)

1987 - 1997 Gymnasium #191 General education

Gymnasium "Poklyk" #191 is a school that specializes in teaching foreign languages.

In Gymnasium #191 I got basic education and participated in different competitions for youth, including yearly "olympiads" in mathematics and computer science.

2012 Xebia Scrum Master

During Scrum Master course in Xebia that was held by Jeff Sutherland, one of the inventors of Scrum, I got an advanced understanding of Scrum principles - how it works, what is the purpose, what problems could be and how to solve them.

Certificate obtained: **Certified Scrum Master**.

2003-2005 Kyyiv School #256 Pedagogical practice

During pedagogical practice in School #256, I got experience on how to teach others, how to make others be interested.

Discipline: **Computer Science**.