Ilka Guigova

20+ years building systems where correctness matters. A kernel of laughter.

Technical Skills

- **Languages:** Go, C#, Java, Kotlin, C++, Clojure, Erlang, Haskell, JavaScript
- **Frontend:** React, Angular, Node.js
- **Backend/Data:** Redis, PostgreSQL, MongoDB, DynamoDB, MySQL, GraphQL, Graph DBs
- **Cloud & DevOps:** AWS (EC2, Lambda, S3), Kubernetes, Docker, CI/CD
- **Security:** OAuth 1.0/2.0, OIDC, SAML 2.0, OWASP, SOC2

Key Accomplishments

- **Regulatory compliance:** Worked on multi-state integrations (METRC, Biotrack) across 14 microservices - 8 major initiatives, serving 1,000+ licensed facilities
- **Identity management:** Implemented OAuth 1.0/2.0, OIDC, SAML 2.0 for 35+ identity providers with comprehensive testing suite
- **IoT/Building management:** Integrated real-time insights, inspections, and notifications within Asset Digital Twin (ADT) environments using GraphQL
- **Secure communications:** Designed dynamic rules engine, caching layer, and non-repudiable audit trails for enterprise email - improved maintainability by 80%
- **Marine traffic:** Built self-learning mapping engine processing 300+ calls/second
- **Payment processing:** Millions of transactions/month - reduced complexity 40%, cut QA turnaround 33%, improved error detection 5x. PA-DSS certified.
- **Automotive/Aerospace:** Led ultrasound localization research (RANSAC) for SmartCart; path planning prototype led to Canadian Space Agency contract
- **Third-party integrations:** Built Zapier integration layer exposing Flourish's API to customers; integrated with Bartender Cloud API (OAuth2) for automated label printing
- **Creative tools:** Designed unlimited undo/redo algorithm for theater script editor - delivered in 2 weeks, reused as auto-recovery mechanism
- **Leadership:** Supervised QA teams, coordinated cross-team development across backend/frontend/integration, mentored junior engineers and high school students

Contributions & Community

- **File Comparison Algorithm (FIFF):** LCS-speed for non-sequential differences. Used by Code Project "Lean and Mean" winner.
- **Poker Hand Evaluation:** Elegant solution avoiding sorting and lookups (5 & 7-card games)
- **Open source:** 16 public repositories on GitHub • Arctic Code Vault Contributor
- **Mentorship:** Microsoft TEALS program - built sustainable CS programs in high schools

Philosophy

- **Problem-solving:** Identify multiple solutions, choose the simplest that meets the need
- **Values:** Integrity, enthusiasm, constant learning
- **Motivation:** Challenges that require creativity and discipline
- **Early spark:** Solved an assembler problem declared "unsolvable" by my teacher
- **Favorite read:** Roy Fielding's dissertation on Architectural Styles
- **Education:** B.Sc. Mathematics (Honors Specialist, 6th in class), University of Toronto