

# Nicholas Armstrong

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*Hands-on, startup-minded technology leader — building and mentoring teams, cracking hard technical problems, owning architecture end-to-end, and turning business needs into great products.*

## EXPERIENCE

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### **Chief Technology Officer**, *MarshallZehr Group, Waterloo*

JUN 2020 – PRESENT

- Own all aspects of technology — software, cloud and network infrastructure, security, and IT — for a private mortgage lender, bridging technology and business.
- Built the internal engineering team from zero — repeatable dev environments, CI/CD, code review, technical architecture (C#/Angular), roadmapping, and release processes — reducing onboarding from a week to 2 hours, and flipping the team’s focus from firefighting to shipping.
- Reduced overall technology cost 45% despite significant growth in functionality; raised reliability to 99.8% across all SaaS and internal services.
- Migrated to AWS with infrastructure-as-code in six months, cutting hosting costs 60%; an independent audit called the result “a sophisticated and well-optimized cloud environment.”
- Rolled out SSO across all applications; migrated 1.2M files to Box and integrated the mortgage platform with HubSpot and NetSuite — with zero business disruption.
- Drove AI adoption: authored a 30-day microlearning course, ran an AI tutoring program, and built AI integrations into internal software and Box.

### **Director of Software**, *Carnegie Technologies, Kitchener*

FEB 2016 – FEB 2020

- Led a global team developing Carnegie’s Network Convergence, IoT, and Satellite platforms; set technical direction and guided product architecture.
- Grew the team from 5 to 34 (+50 contract) with low turnover; founded the engineering culture, technical hiring process, and code review standards.
- Designed the architecture for two greenfield products — SatBridge and Longview IoT — across mobile, web, and embedded devices; hands-on with Node.js, Angular, and Kubernetes.

### **VP Engineering**, *Pravala Networks, Kitchener*

MAY 2009 – FEB 2016

- Co-founder; jointly responsible for engineering of Pravala’s multi-network connectivity platform — real-time link aggregation and seamless handoff across cellular and Wi-Fi for uninterrupted, low-latency connectivity.
- Coded the horizontally-scalable policy server (Node.js/PostgreSQL), the web management console, and the Android client; led system integration; co-inventor of core aggregation and handoff protocols.
- Represented Pravala with OEMs, automotive Tier-1s, and major telcos across North America and Asia.

## EDUCATION

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**Master of Applied Science, Electrical & Computer Engineering** — University of Waterloo, 2011

**Bachelor of Applied Science, Computer Engineering** — University of Waterloo, 2009

## PATENTS

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Multi-network connectivity and IoT — 5 US patents

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## LICENSES

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Mortgage Agent Level 2

FSRA, Jan 2023 – Present