

NICHOLAS ARMSTRONG

SOFTWARE LEADER | MASC, EIT
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SUMMARY OF QUALIFICATIONS

- Experienced software leader with a focus on solving complex engineering problems end-to-end – from the technology (multiple patents) to the real world (frequently visit customers)
- Focus on startup-scale companies – building teams, establishing the engineering culture, and designing the initial product architecture and development systems
- Expert knowledge of software development with emphasis in cloud services, mobile & web apps, networks, web application performance, and products that combine hardware and software
- Frequent coder – I like to get hands-on alongside my team. Recent: Docker, Angular, node.js, Power BI
- My personal software leadership runbook includes:
 - Leading architecture workshops to clarify the problems to solve and share knowledge
 - Reducing complex systems to intuitive diagrams – often drawing “live” to create progress
 - Using data visualization tools to summarize progress or identify areas to improve
 - Documenting engineering principles and using them as the basis of 100% code review
 - Using high-fidelity prototypes to improve design and guide decision making
 - Planning for change and operations from the outset to minimize cost as the product evolves
 - Using or creating development tools to maximize focus and minimize error
- Deep knowledge of networks and their effect on application performance; my thesis work developed a technique for decreasing web page load times over mobile (3G/4G) connections
- Hobbyist cook, maker, curler, and avid learner

WORK EXPERIENCE

DIRECTOR OF SOFTWARE

CARNEGIE TECHNOLOGIES

FEB 2016 – FEB 2020

- Led a global team of software engineers to develop Carnegie’s Network Convergence, Internet-of-Things (IoT), and Satellite platforms
- Founded engineering culture – wrote developer handbook and performance review rubrics, designed engineering systems (Gerrit, GitLab, JIRA, Jenkins), set code review standards, mentored developers and team leads
- Hands-on leadership: actively developed in JavaScript/TypeScript (node.js/React/Angular), Docker/Kubernetes, Java (Android), C# (.NET/WPF), and Power Query/DAX (Power BI/Excel)
- Travelled to support Carnegie’s business activities, from conference presentations to on-site customer integrations

KEY ACHIEVEMENTS

- Established the technical hiring process and grew team from 5 to 34 (+50 contract), with low turnover
- Designed the software architecture for two greenfield products – SatBridge and Longview IoT – across native and hybrid mobile applications, scalable web services running on Kubernetes, and applications for embedded devices
- Co-directed Kitchener office: build-out, IT systems, new employee onboarding, snacks and drinks, team building

VP ENGINEERING
LEAD PROGRAM MANAGER

PRAVALA NETWORKS (KITCHENER-WATERLOO, ONTARIO)

OCT 2012 – FEB 2016
MAY 2009 – OCT 2012

- Responsible for all engineering activities, from hiring and technical leadership to the design and implementation of Pravala's mobile and automotive products
- Managed customer projects, with responsibility for all project aspects including requirements, schedule, architecture, development, delivery, and customer relationship
- Coded Pravala's horizontally-scalable policy management server (built with node.js and PostgreSQL), web management console (HTML5/LESS/backbone.js), and Android client interface (Java)
- Often supported sales activities, analyzed competing products, and discussed product strategy
- Worked directly with potential customers to demonstrate product capabilities and understand market needs

KEY ACHIEVEMENTS

- Represented Pravala in engagements with OEMs, automotive Tier-1s, and major telcos in the United States, Malaysia, Japan, Hong Kong, Indonesia, and China
- Supported Pravala's successful \$9.4m Automotive Supplier Innovation Program grant from the Government of Canada, including project definition and periodic project progress reports

PROGRAM MANAGER (PM) INTERN
SOFTWARE DESIGN ENGINEER (SDE) INTERN

MICROSOFT CORPORATION (REDMOND, WASHINGTON)

SEP 2008 – DEC 2008
JAN 2008 – APR 2008

- Managed the development of a WPF/Windows 7 sample application featuring multi-touch and ribbon integration for the 2008 Microsoft Professional Developer's Conference
- Developed photoSuru, an occasionally-connected photo viewing application, to demonstrate the highly differentiated experiences developers can create using WPF
- Assisted the WPF test team in testing new features of WPF to identify bugs prior to the release of .NET 3.5 SP1

KEY ACHIEVEMENTS

- Provided on-site support for the .NET Corporate VP's keynote demonstration of the WPF/Windows 7 sample to the 6,000 attendees present at PDC 2008
- Drove photoSuru's release to web (with full source code) at www.photosuru.com (since retired)

ADDITIONAL EXPERIENCE

MAKERCLUB VOLUNTEER

THEMUSEUM (KITCHENER-WATERLOO, ONTARIO)

OCT 2015 – PRESENT

(VOLUNTEER)

- Assist with monthly club for children as they learn maker skills - electronics, mechanics, art, repurposing, and more

ACADEMIC REPRESENTATIVE

FOR THE COMPUTER ENGINEERING CLASS OF 2009 (8 STREAM)

MAY 2006 – MAY 2009

(VOLUNTEER)

SOFTWARE CONSULTANT

SYSTEMGROUP, INC. (MISSISSAUGA, ONTARIO)

AUG 2006 – AUG 2007

- Responsible for developing various solution components using a range of Microsoft technologies in cooperation with clients and other consultants (C#, WPF, WCF, ASP.NET, SQL Reporting Services)
- Lead the development of a public website refresh for a not-for-profit organization

PROGRAM DEVELOPMENT

GREATER TORONTO AIRPORTS AUTHORITY (TORONTO, ONTARIO)

JAN 2006 – APR 2006

- Designed and developed a web application using ASP.NET/C# to tabulate training requirements and course completions for Facilities staff to ensure that all workers were up-to-date in their training and certifications

SOFTWARE DEVELOPMENT

HYDRO ONE NETWORKS, INC. (BARRIE, ONTARIO)

APR 2005 – SEP 2005

UNIVERSITY EDUCATION

MASTER OF APPLIED SCIENCE

UNIVERSITY OF WATERLOO – ELECTRICAL AND COMPUTER ENGINEERING

MAY 2009 – SEP 2011

- Thesis topic: *Accelerating the Mobile Web: Just-In-Time Push Prefetching*

BACHELOR OF APPLIED SCIENCE

UNIVERSITY OF WATERLOO – HONOURS COMPUTER ENGINEERING, WITH DISTINCTION - DEAN'S HONOURS LIST

SEP 2004 – APR 2009

MEMBERSHIPS AND PATENTS

ENGINEER IN TRAINING, Professional Engineers Ontario

CANADA PATENT #2791523, Accessing Local Network Resources in a Multi-Interface System

US PATENT #9769116, Encapsulating traffic while preserving packet characteristics

US PATENT #9838319, Encapsulation system featuring an intelligent network component

US PATENT #10212494B1, Method and system for monitoring physical assets

US PATENT #10242547B1, Method and system for monitoring livestock

THIS RESUME IS ALSO AVAILABLE AT www.nicholasarmstrong.com/portfolio