

NICHOLAS ARMSTRONG

SOFTWARE LEADER | MASC, EIT
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SUMMARY OF QUALIFICATIONS

- Experienced software leader with a record of solving complex engineering problems end-to-end – from the technology (multiple patents) to the real world (frequently visit customers)
- Focused on scaling – building teams, establishing engineering culture and processes, architecting products so that they can reliably support millions of users/devices, deploying to the cloud
- 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 to 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 forward progress 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

FEB 2016 – FEB 2020

CARNEGIE TECHNOLOGIES

- Led a global team 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, and applications for embedded devices
- Drove the transformation of legacy analytics solution to a modern one based on Kubernetes and Kafka, with the capacity to process network measurements from 100M mobile apps into streaming KPIs accessible through Tableau
- 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

JAN 2006 – APR 2006

GREATER TORONTO AIRPORTS AUTHORITY (TORONTO, ONTARIO)

- 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

APR 2005 – SEP 2005

HYDRO ONE NETWORKS, INC. (BARRIE, ONTARIO)

UNIVERSITY EDUCATION

MASTER OF APPLIED SCIENCE

MAY 2009 – SEP 2011

UNIVERSITY OF WATERLOO – ELECTRICAL AND COMPUTER ENGINEERING

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

BACHELOR OF APPLIED SCIENCE

SEP 2004 – APR 2009

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

MEMBERSHIPS AND PATENTS

ENGINEER IN TRAINING, Professional Engineers Ontario

US PATENT #9860156, 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 #10212494, Method and system for monitoring physical assets

US PATENT #10242547, Method and system for monitoring livestock

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