

OVERVIEW

Summary	
<ul style="list-style-type: none"> • Several years of industry experience in all aspects of Software Development Lifecycle • Educational background: B.Tech (Electrical) from IIT Kanpur, India (2002), MS in Software Engg. (2005) & Ph. D (Not Completed - 2012) in Cloud Computing from Carleton University, Canada • Worked for Snap (Snapchat), Jet.com (Walmart), Oracle, Microsoft, Schlumberger & Blackberry • Many talks/publications in International conferences, Full list at: http://www.nikhilbarthwal.com 	
Technical Skills	
<ul style="list-style-type: none"> • <i>Programming Languages:</i> C/C++/C#/Java, Ocaml/F#, Prolog, Python, Bash Shell/sed/awk scripts in Linux environments • <i>Web Frameworks:</i> Python/Flask, HTML/CSS for web development • <i>Software Architecture Patterns:</i> Microservices architecture, Domain Events, Event Sourcing, Event Driven Architecture, Domain Driven Design, CQRS • <i>Devops & CI/CD Systems:</i> Jenkins, TeamCity, Visual Studio Team services, Dockers • <i>Others:</i> .NET platform, REST & RESTful Web services, Microservices, Microsoft Azure, SonarQube, MySQL, Git • <i>Development Methodologies:</i> Agile & Pair programming, Domain Driven Design, Type Driven Design with Functional languages • <i>Test Methodologies:</i> Test Driven Development, Unit testing & Integration testing, Chaos testing 	

WORK EXPERIENCE: SNAP (SNAPCHAT)

	Snap, Senior (Staff) Software Engineer	Dec 2017 – Mar 2018
<i>Overview</i>	<ul style="list-style-type: none"> • Worked in the Developed Efficiency team. • My aim was to accelerate the velocity of innovation while being the gatekeepers of quality and that ensuring developers get feedback quickly. 	
	Work accomplishments	
<i>Work Accomplishment</i>	<ul style="list-style-type: none"> • Architected the new CI/CD pipeline that would reduce commit to release time by up to 50%. • Worked on Build-as-a-Service system where developer can submit a build and get a link to the binary stored in a blob container via email. • Examined the Internal Workflow system and suggested several improvements to it. 	

WORK EXPERIENCE: JET.COM

	Jet.com, Senior Software Engineer/Tech Lead	Mar 2016 – Dec 2017
<i>Overview</i>	<ul style="list-style-type: none"> • Jet.com is an event driven platform implemented via Micro-service architecture using F# on Azure. • Senior Engineer in the Internal Tools & Productivity team. My aim was to accelerate the velocity of innovation while being the gatekeepers of quality and that ensuring developers get feedback quickly. • Work seamlessly across various engineering groups with a focus on end-to-end functionality and coordination between teams. Part of a lean team of 4 engineers in an organization of 200+ engineers. 	
	Work accomplishments	
<i>Work Accomplishment</i>	<ul style="list-style-type: none"> • Developed the Load Testing Infrastructure for Jet, and mentoring teams on how to Load test their services. • Developed F# coding standards for the company and Linter tools to check the code conformance. • Implemented a Dependency analyzer that would analyze the dependencies of project to ensure that a project only depends on supported dependencies only, with a provision for exception where needed. • Implemented a scanner which would detect Anti-Patterns - code patterns that outages & crashes. • Setup a SonarQube instance for continuous inspection of code quality. It provides reports on duplicated code, coding standards, unit tests, code coverage, potential bugs, and design & architecture issues. • Implemented a Security Library for services to prevent threats like SQL Injections, Cross-site scripting etc. • Implemented a scanner that would check code for Consul keys for deployment to QA & Production, blocking deployment if the keys are missing for that environment. This prevents failed deployments. • Created a new scheme to specify project and its dependencies that leads to more efficient ways for deployment, with fewer resources wasted. This led to reduction in cost of operations. 	

WORK EXPERIENCE: ORACLE

	Oracle Corporation , Senior Member of Technical Staff	Feb 2015 – Mar 2016
<i>Overview</i>	<ul style="list-style-type: none"> Worked in Test Infrastructure & Tools team Designed & Implemented software solutions that empowers the team to deliver a cloud infrastructure service of high quality, stability and performance 	
<i>Work Accomplishments</i>	<ul style="list-style-type: none"> Designed an Internal Dashboard and associated API to monitor the state of environment in the lab. Used REST calls to query the state of the environment and HTML/CSS for front end of the dashboard. Administered the MySQL DB where all the test results data was stored, with Python code to enter & retrieve info to the DB. Configured the Jenkins CI Server and integrated it with Git SCM repo. Used docker build commands to push images into artifacts. 	

WORK EXPERIENCE: MICROSOFT

	Microsoft Corporation , Software Development Engineer	Jul 2012 – Nov 2014
<i>Overview</i>	<ul style="list-style-type: none"> Worked on System Center Operations Manager (SCOM), Microsoft’s on-premise cross-platform data center management system for Operating Systems & Hypervisors, and SCOM Online: Cloud based version of SCOM Part of Application Insight team in Cloud & Enterprise division (formerly Server & Tools Business) 	
<i>Work Accomplishments</i>	<ul style="list-style-type: none"> Added localization support for several new languages to the SCOM On-Prem by enhancing the build system. Handled several live site issues related to bug fixes/feature enhancements in Alert Forwarding code in SCOM On-Line, which handles the Alerts coming from the Microsoft Monitoring Agent (MMA). Created a library to integrate support for the Monitoring & Diagnostic System (MDS): Microsoft's Telemetry infrastructure by understanding of MDS Operations, various configurations, and the API. Re-designed several dialogs, changing the setup experience completely for the Microsoft Monitoring Agent. Did low-level COM programming (in C) and several custom actions (in C++) including manipulating the registry during MMA setup. Added Data Grooming feature support to System Center Advisor (SCA) portal, which stores huge amount of data that needs to be groomed by pre-defined policies, which varies from tenant to tenant. Developed UI infrastructure & Dashboard for SCOM Test Monitoring with embedded Powershell scripts. 	

WORK EXPERIENCE: BLACKBERRY

	Blackberry, Ottawa, CANADA , CDMA Software designer	Jun 2005 – Aug 2006
<i>Technical Experience</i>	<ul style="list-style-type: none"> Worked as a software designer at RIM, the maker of the Blackberry wireless hand-held device Part of the team that maintained the radio code (implemented in C) for Blackberry operating system. The work involved bug fixing as well as implementing new features. Worked in area of modeling & simulations of protocols in the Transport layer using an in-house custom simulator. Analyzed and fixed the bottlenecks in the performance of Mobile web. Part of the initiative to prepare team for Capability Maturity Model Integrated (CMMI) SCAMPI Appraisal held on May/06. Assessing the level of current processes & practices and interviewing stakeholders. 	

EDUCATIONAL BACKGROUND

<i>Ph. D (Dropped out)</i>	Real Time & Distributed systems Lab, Carleton University, CANADA	2012
	<ul style="list-style-type: none"> Thesis in Cloud Computing, more specifically Software Performance Engineering in Data Centers Developed an approach to assemble a system from software components using pre-calibrated performance models of these components. 	
<i>M.S.</i>	Real Time & Distributed systems Lab, Carleton University, CANADA	2005
	<ul style="list-style-type: none"> Used methods for predicting performance of Real Time and Distributed Systems through modeling the system using Queuing Theory and solving these models by analytical methods and simulation. 	
<i>B. Tech. & Before</i>	B. Tech., Indian Institute of Technology (IIT) Kanpur, INDIA	2002
	<ul style="list-style-type: none"> Secured All India Rank of 301 in IIT Joint Entrance Examination (out of approximately 150,000 students) National Talent Search Scholarship of India (awarded to 750 students nationwide out of 400,000 students) 	