

# Nicolas Bettenburg, PhD

Director of Engineering at inBay Technologies Inc.

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## Summary

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Problem-solver, out-of-the-box thinker, thought leader. A strong background of 8 years of industrial research have equipped Nicolas with extensive skills in quantitative data analysis, statistical modelling, software engineering, and software processes. Parts of his research work on software quality assurance have been published as book chapters.

As a director of Engineering he is leading inBay's Engineering, R&D and DevOps teams to success using Agile Kanban and Continuous Delivery processes, while incorporating cutting edge cloud and SaaS technologies into inBay's product offerings. Nicolas is fluent in numerous programming languages, such as Java, Scala, Ruby, and has recently developed a liking for Go and Elixir.

Nicolas has been co-organizing the International Workshop on Mining Unstructured Data (MUD) since 2010 and has been an invited speaker on panels for Cyber-Security and Cloud.

## Technical Skills

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**Statistical Modeling** in R • **Software Development** in Java, Scala, Ruby, C# • **Software Process Management** with JIRA, MSProject, and Confluence • **Infrastructure** as Code with Ansible and Chef • **Cloud** with Docker, OpenStack ESXi and Vagrant • **Data Mining** with ELK and Hadoop • **Version Control** with GIT, CVS, SVN and TFS • **Data Visualization** with D3, GGPlot2, Shiny and Illustrator • **Databases** with MongoDB, Redis, PostgreSQL, MySQL, SQL Server • **Web Applications** with Play2, Struts2, Spring, NodeJS, SCSS, HTML5, JSON, Bootstrap and Foundation • **Backend Services** as N-Tier Architectures, Microservices and RESTful APIs.

## Work History

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### Director of Engineering

2015 - 2016

inBay Technologies Inc., Ottawa, ON, CANADA

- Planning and execution of a transition from the existing software development process to Agile methods.
- Introduction of an ISO 9001:2008 compliant process powered by the Atlassian Technology Stack - Introduction of Best Practices based on static and dynamic code audit tools (SonarCube, FindBugs,...) and Process Best Practices such as Peer Code Reviews, Pull Request, Git Flow.
- Strategic acquisition of talent and strategic business planning.
- Project and Product management.
- Technological support of funding activities.

- Lead platform rewrite in Scala using state-of-the-art technologies such as Akka, Spray, Scala, Slick, Finagle.
- Architecture, and design of PaaS layer based on state-of-the-art containerization technologies, Docker, Vagrant, Mesos, Marathon, Kubernetes.
- Architecture, and design of a BI / BA infrastructure based on ELK (Elastic Search, Logstash, Kibanana) stack, Apache Spark, and Cassandra.
- Public speaking
- Federal Government Trade missions to South East Asia

## **Director, R&D**

2014 – 2015

inBay Technologies Inc., Ottawa, ON, CANADA

- Ownership of the technical roadmap and corresponding R&D activities of the technology, platform, cloud services and enterprise solutions offerings.
- Capacity analyses and performance optimization of core technology.
- Thought leadership and presentation of technology in public international forums.
- Cutting edge cloud, mobile platform and cyber-security technology as part of inBay's product line.
- Support of the corporate IP strategy, from ideas to patents
- Management of inBay's mobile cloud lab.
- Architecture, design, implementation a massively scalable cloud platform for IDAM as a Service, that is self-healing, fully redundant, distributed, elastic and reactive.

## **Microsoft Research, Intern**

2012 - 2012

Microsoft Corporation, Redmond, WA, USA

- Embedded in a software product team of a large server product at Microsoft.
- Development of Big Data mining techniques for recovering and understanding work and task management culture.
- Assessment of findings through interviews with product teams.

## **Intern**

2005 - 2005

Fraunhofer Institute of Biotechnology

- Implementation of an attenuation differential signal processing layer for a 45-phased ultrasound array, thus adopting ultrasound imaging to soft-tissue problems such as adenocarcinoma of the breast.

## Education

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**Doctor of Philosophy** 2008 – 2014  
Queen's University, Kingston, ON Canada

**M.Sc., Computer Science** 2007 – 2008  
Saarland University, Saarbrücken, Germany


**B.Sc., Computer Science** 2002 - 2007  
Saarland University, Saarbrücken, Germany

## Expertise

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**Software Process**   
Agile, Scrum, Kanban, Waterfall, and Hybrids

**Software Development on the JVM**   
Over 10 years of working experience

**Data Mining and Data Visualization**   
Over 8 years of industrial research experience

**Statistical Modeling and Analysis**   
Over 5 years of industrial research experience

**Cloud, SaaS, REST, Services, APIs**   
2 years as Technology Leader at inBay

**Project and Team Management**   
Project Management, Product Ownership  
Talent Acquisition and People Management