

# Nicholas MacInnis

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## Professional Experience

### Olark

**Senior Software Engineer** *May 2013 - Present*

- Primary maintainer of chat product's backend communication infrastructure and data storage.
- Responsible for overall system reliability and scalability, feature planning, design, and implementation.
- Interviewing, training, and mentoring other backend engineers.
- Buzzwords: Python, ElasticSearch, S3, redis, mysql, RabbitMQ, Docker, Kubernetes

### ***NNRPC***

A highly scalable webserver cluster handling 17,000 req/s across 90 machines, with presence tracking of over one million concurrent web users.

- Total rebuild of a legacy system to solve issues of scaling limits, reliability, and inconsistent state management.
- Effective use of automated testing and code review to ensure no loss of functionality.
- Implemented redis-based session store and subscription-based message delivery.
- Implemented stateless webservers and controllers for ease of cluster management.

### ***Transcript Datastore***

Permanent storage and reporting microservice for all Olark customer data.

- Implemented ElasticSearch indexing and S3 storage of over 165M transcripts of customer conversations.
- Implemented chat agent presence history datastore tracking over 100M status events.
- Implemented Olark's best-in-class reporting functionality using the above, providing the data for customer satisfaction tracking, traffic graphs, agent time-tracking charts, etc.
- Implemented automatic redaction of personally-identifiable information for compliance with GDPR.

### ***Email Report Service***

Microservice providing batch execution for emailed reports.

- Implemented automatic scheduled email reports, sending ~25,000 reports per week.
- Implemented Olark's original CSV email report, used over 145,000 times to date.

## BigMachines, Inc.

**Technical Lead Software Engineer** *Jan 2012 - May 2013*

- Technical lead of Server Side Development team.
- Performed code reviews and trained other developers.
- Introduced code quality standards based on code reviews (mandated) and testability (measured by coverage) to promote long term maintainability of the software.
- Wrote a library for working with Directed Acyclic Graphs and implemented a workflow/approvals system using it.

**Software Engineer Level 2** *Jan 2011 - Dec 2011*

- Lead developer on E-Commerce Business Rules Engine. Requirements analysis, design, implementation, testing, and code review.
- Lead developer on E-Commerce Testability initiative. Refactored software module to allow isolation of individual components for greater unit test coverage.

## Portico Systems

**Customer Support Software Engineer** *Jan 2009 - Dec 2010*

- J2EE, Jython and Oracle support engineer.
- Triaged customer issues and enhancement requests and developed solutions.
- Refactored Print Directory feed module for code quality and testability.
- Primary support engineer for National Provider Database feed module.
- Implemented departmental code review process.

## Education

**Bachelor of Science in Software Engineering**, Drexel University *Dec 2008*

## Undergraduate Experience

**Assistant System Administrator**, Drexel University Dept. of Computer Science *Jul 2007 - Nov 2008*

**Testing Automation Coop**, Siemens Medical Systems *Apr 2006 - Sep 2006*

**Software Engineering Coop**, Unisys *Apr 2005 - Sep 2005*

**IT Intern**, American Reinsurance *Jun 2004 - Sep 2004*

*References provided upon request.*