Tom Mitchell

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Accomplished **Software Engineer** with a strong background in machine learning, service infrastructure, and custom business solutions. Extensive experience in all stages of a rapid software development lifecycle, from design through implementation, testing, and maintenance. Passionate about beautiful code, the power of software, and technology in general.

Experience

Software Development Engineer II – Microsoft

Oct 2010 – Current / Bellevue, WA

Worked on a variety of machine learning and infrastructure problems for the Contextual Relevance group in Bing, and more recently Cortana's Proactive card ranking. Key accomplishments:

- Designed and implemented a generalized system for making Cortana ranking features (computed daily from user logs) available online with minimal effort from data scientists; and allowing highly nuanced features across multiple user dimensions (demographics, location, etc).
- Migrated several large backend features from an old system (written in C++) into C# with a completely new service paradigm – requiring redesign and rewrite of many components.
- Designed and built a feature known as Ranking Stability, which caches personalized query results per-user, in order to stabilize Bing's web results between queries - a critical issue that required fast turnaround time on implementation.
- Aided in design and implementation of a centralized service designed to expose user information and models from various parts of the Bing stack in a single easy-to-consume schema for partners.
- Worked closely with individuals in MS Research to bring new research ranking techniques into fruition in the Bing live site.
- Championed live site stability – setting up a monitoring flight that constantly checks for relevance regressions, as well as striving to keep alerts and tests updated.
- Gained experience in the first year in a Test role, owning feature testing and performing at-scale index tests.

Software Engineer – Canary Data Solutions

Nov 2006 – Oct 2010 / Auckland, New Zealand

Developed custom data-oriented business software in a small team environment, owning several projects end-to-end. Key accomplishments:

- Appointed as project lead on two ongoing support contracts, communicating with clients daily, overseeing new feature development and bug fixes.
- Involved in all stages of a "requirements, development, testing, deployment" rapid software lifecycle, often in direct communication with clients. Providing accurate time estimates and client training were also key parts of this process.
- Key project: A high-volume vehicle dismantling operation in Japan, consisting of both a public website and multiple internal systems handling everything from vehicle purchase, to dismantling, to customer invoicing; all interfacing with a central MSSQL database.
- Personally pushed for the use of Git and NUnit internally.
- Produced and worked on a number of frequently-used internal tools, such as a database schema migration tool and website scraper.

Competencies

Experience with a wide variety of languages and frameworks; fast learner when presented with new platforms

High expertise in C# and Python

Strong background in object-oriented design, testing, databases (relational and non-relational), team development (source control, bug management, documentation)

Education

Bachelor of Engineering

2005 – 2008 / University of Auckland

Specialized in Software Engineering