



# MILES THOMPSON

Technical Architect | Full Stack Developer | [goodbright.nz](http://goodbright.nz)

## ABOUT ME

I am a developer, technical architect, startup founder and former Chief Technology Officer at CreditSights Inc (the leading independent financial research provider in NYC).

I am an experienced technical lead in the C#/.NET stack as well as in the NodeJS/MEAN development stack. I also have extensive experience in data science / machine learning (Python / Tensorflow / AWS etc)

## OBJECTIVE

I'd be interested in any role that challenges and extends me as developer, technical architect or team lead. I am particularly interested in machine learning, data pipeline and data modeling roles.

## EDUCATION

### BSc Hons I, Math

*University of Otago, 1995  
First Class Honours, Mathematics.  
(Summa Cum Laude)*

### BA, Sociology

*University of Canterbury, 1994  
Bachelor of Arts*

### Certified Scrum Master



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## SELECTED EXPERIENCE

### MACHINE LEARNING ENGINEER • PRIVATE CONTRACT • 2018

Working closely with well-known Kiwi startup founder Linc Gasking (founder of 8i) on his latest project I've helped develop new mathematical models for channeled communication networks that can transform aid and finance to the developing world as well as communication during disaster or crisis situations. Much of this work is under NDA but has included building network simulations in C#, Bayesian models in R and other work in Stan and Python.

Platform/Skills: C#, Machine Learning, R, Python, Stan, Bayesian Models

### MACHINE LEARNING ENGINEER / FOUNDER • [DEEPPBR.AI](http://DEEPPBR.AI) • 2018

Working with the team at RealityVirtual.co I built a new machine learning pipeline that can generate assets greatly needed for AR/VR rendering from a simple photograph. This technology will be able to save creatives and studios many hundreds of hours as compared to more manual approaches used to date. We have had strong interest in this product from the industry.

Platform/Skills: Python, Machine Learning, 3D, AR, VR, Tensorflow, Image Processing

### MACHINE LEARNING ENGINEER • [TEHIKUMEDIA](http://TEHIKUMEDIA.COM) • 2018

As technical lead and machine learning engineer I was responsible for developing a new data processing pipeline, training, testing and validating new Machine learning models and deploying our model into production on AWS (behind a REST API). This is the first Speech Recognition model for Te Reo Māori ever deployed to production. We attained 14% WER on properly held out data. At a recent conference in Cambridge UK, Common Voice engineers described themselves as 'shocked and amazed' at the level of accuracy we had achieved.

Platform/Skills: Python, Machine Learning, AWS, Tensorflow, CMU Sphinx, DeepSpeech



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## TECHNICAL ARCHITECT • [CREDITSIGHTS.COM](http://creditsights.com) • 2008 – JAN 2018

Over these ten years I acted as technical and design lead across a number of successful projects at CreditSights, including multiple upgrades to all their flagship systems. Most recently (in the last year or so), I:

- Designed and led the development on a GraphQL based API which provides the flagship CreditSights content and numerical risk information via a JSON end-point to a React web front end. I also worked closely with the front end engineers on this application.

**Platform/Skills:** C#, .Net Core, .Net MVC.API, GraphQL, React, Javascript

- As scrum master and project lead, led the design and development of a well-received system that financial analysts use to track, share and approve corporate fundamentals, various formulas and presentation of those fundamentals to clients.

**Platform/Skills:** C#, .Net MVC, Angular JS, Excel, VSTO, Excel DNA, Scrum Master, Team Lead

- Built a system to receive all bond pricing from Bank of America Merrill Lynch, perform bond return, volatility and risk estimate calculations and then store this information in a way optimized for efficient query and processing. I optimized a process that had been taking more than a week so that it could run in less than forty-five minutes while allowing for more complex calculations and extension of the system.

**Platform/Skills:** C#, . SQL-Server, ETL, Python, Luigi, Team Lead, Apache Spark, Azure, AWS

## MACHINE LEARNING ENGINEER • [THE GREAT OUTDOORS](#) • 2017

Working with renowned theater director Annie Dorsen, I created a data pipeline to download sentences from the social stream and, using machine learning techniques, generate a unique script for each performance. The show has opened in The Netherlands, Paris, Berlin, New York, Boston.

**Platform/Skills:** Python, Machine Learning, GenSim, Apache Spark, Motorway



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## MACHINE LEARNING ENGINEER • [HASHMAPD.COM](http://HASHMAPD.COM) • 2013

Working with Drs Abraham and Freaan I helped to create a pipeline that processes tweets, computes semantic hash, and then draws a density map of the people based on what topics they discuss. While unsuccessful as a business venture we learned a lot about the business of social media and how to scale data and machine learning techniques.

Platform/Skills: Python, Machine Learning, Theano, CouchDB

## DEVELOPER/FOUNDER • [AUTISM360.ORG](http://AUTISM360.ORG) • 2008

After helping to ensure funding from the Moody's foundation in 2008, I put together a team of developers, designers and support staff to create a site for families affected by autism. The site processes the symptomatic data of people on the autism spectrum using advanced medical collaborative filtering techniques (for which I was awarded a patent) and recommends 'treatments that have worked well' for 'other people like you'.

Platform/Skills: Java, SQL-Server, Collaborative filtering, Founder, Team Lead

## CHIEF TECHNOLOGY OFFICER • [CREDITSIGHTS.COM](http://CREDITSIGHTS.COM) • 2003-2008

As CTO at CreditSights I built technology platform and the technology team for this (at the time) fast growing early stage financial company. I took the technology side of the business from one person through to a complete development team with multiple systems, multiple offices and a core developer crew of more than eight plus various consultants and support staff. I also designed the core technical architecture and managed the development on their flagship financial research and risk modeling products through multiple major iterations.

I successfully managed and grew an effective technology team and ensured deployment of Content Management, Business Intelligence, desktop, server support, Sales and Accounting systems across multiple office locations. During this period CreditSights grew rapidly in revenue and staff (>20% YoY) for many years and then weathered the GFC well. I believe this reflects well on my effectiveness as CTO.

Platform/Skills: C#, Microsoft.Net, Information Technology Management, Business Strategy



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## TECHNICAL ARCHITECT • [CYBERELVES](#) • 1999-2002

Technical architecture and lead on 10-person team. Designed and delivered a patented medical collaborative filtering (ML) project ([www.medigenesis.com](http://www.medigenesis.com)) using UML, Java, servlets, XML/XSLT, SQL-Server. Designed and managed delivery of 6 other projects using UML, Java/J2EE, ASP, Perl, Javascript. Built encryption module in Oracle PL-SQL. Also acted as project manager, and client liaison / technical sales for New York office.

Platform/Skills: Java, UML, SQL-Sever, Oracle, Team Lead

## PROGRAMMER • [SOLNET NZ \(SUN MICROSYSTEMS, NZ\)](#) • 1998-1999

Created the proof of concept, back end internet banking architecture for the National Bank online banking system ([nbnz.co.nz](http://nbnz.co.nz)). Delivered a Microsoft COM to CORBA bridge using Java, J++, EJB (iPlanet), Visigenics.

Platform/Skills: Java, J++, Microsoft COM, Banking, Corba, J++

## PROGRAMMER • [REUTERS NEW ZEALAND](#) • 1998

Designed and delivered a real time electricity market and news info-web site using Reuters Triarch, Java, Visual Basic, Javascript ([m-co.co.nz](http://m-co.co.nz)). Designed and delivered a Y2K compliance tracking database utilizing UML/RUP methodology, MS-Access and ASP in under 4 weeks.

Platform/Skills: Reuters Triach, Visual Basic, UML, MS Access, Classic ASP

## REFERENCES

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On request, I would be very glad to provide you with references who can confirm and expand on the details described above, as well as a number of other relevant projects over the years.



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## AWARDS AND PAPERS

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**Patent**, 2001, Co-Inventor medical collaborative filtering and cluster analysis system (for kids with Autism)

<https://patents.google.com/patent/US20030061072>

**Academic paper**, November 1995, "A Neural Statistical Hybrid". International Association of Neural Networks and Expert Systems.

## TESTIMONIALS

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### Shaun McCarthy

Sr Manager, Machine Learning & Relevance, Amazon Video

*Shaun was my direct manager at CreditSights 2008-2013*

Miles is easily able to switch from thinking from a customer point of view, to a business point of view, and then a technical point of view. This allows him to come up with innovative solutions that make the appropriate trade-offs between functionality, deliver times & costs as well as long term efficiency. He's externally aware, and not limited by "not invented here" - often coming up with simple ways of removing complexity from a problem, leading to people commonly wondering "now, why didn't I think of that?". I miss our rapid-fire white-boarding sessions: whether they be covering what roadmap items will deliver the most customer value for our investment, or which components should be separated out in our architecture to ensure long term flexibility, or if matrix factorization or topic modelling would lead to customers finding content on our site more easily. Miles realizes that calculating risk taking is crucial when delivering quickly, understanding that many decisions are reversible and do not need extensive study. When something doesn't quite work as expected, Miles is deeply self reflective, and constantly looking at ways to improve, being vocally



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self critical - even when others would feel this is awkward. This helps him earn the trust of others, and lift everyone to a higher standard.

## Judith Chinitz, MS, MS, CNC

Co-Founder Biome Restoration Ltd

*I reported to Judy as founder of Autism360.org (2007-2008) and in other roles.*

I have known Miles for almost two decades. I worked closely with him for several years on a highly innovative, complex and extensive internet-related project. He is a brilliant man, not only knowledgeable in his chosen field but in so many other ways. Miles is one of those all-too-rare minds: a truly creative and out-of-the-box thinker, with genuine intellectual curiosity. He learns for the joy of learning, exploring many areas of interest with passion and insight. Perhaps most importantly of all, Miles is a truly good man. I will never forget how, in a moment of extreme professional crisis for me, he was the one person to stand by me and offer help for no reason other than I needed it. He was also the only one to volunteer enormous amounts of his time to provide me the computer expertise I do not have, when trying to resurrect an internet site for a worthy cause. I cannot recommend Miles highly enough. For almost 20 years I have considered it an honor to be considered his friend. And should the opportunity ever arise again to work with him, I would be the first to jump at the chance.



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