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SUMMARY

A "smart creative" seeking the next challenge!

BACKGROUND

I'm a web developer, a game designer and an expert in AI with over two decades of experience as a team leader, project manager, company director, CTO and lead developer.

I enjoy helping small teams to realise their full potential, taking a product from inception through to launch and beyond.

I thrive when given problems to solve by people who respect that programming often involves deep thought, and that typing away at a computer is not always the most efficient use of one's time.

I love working in environments of constant change, finding that I gravitate towards early-stage startups. I have started three of my own companies, and have joined six others as one of the first employees.

Although I've lived and worked in London, Tel Aviv and Sydney, at this stage of my life I'd prefer to remain in Perth, having built a house near to the school that my two young kids attend. I am seeking to work with a local company that "gets it", or for a overseas company that embraces remote work.

OBJECTIVES

I have always striven to

- continue to learn by working with smart people;
- implement elegant solutions to difficult problems;
- help businesses to improve development processes; and
- deliver quality results to appreciative customers.

Heading into the next decade of my life, I plan to

- become involved in the education of children in the STEM subjects; and
- gradually build a passive income by creating things of value.

EDUCATION

Copies of academic records are available upon request.

Bachelor of Engineering (IT), UWA, 1991-1994

- Developed a Virtual Reality system in 1992.
- Wrote "MegaHAL", a learning chatterbot, in 1994.
- Set up one of the first webcams in early 1995.
- Achieved straight A+ grades in final year.

PhD (ABD), UWA, 1995-1999

- Won the Loebner Prize for Artificial Intelligence in 1996.
- Travelled overseas extensively, visiting universities and conferences.
- Developed a sophisticated predictive language model in C.
- Submitted thesis in 1999, before relocating to the UK.

This is given as a reverse-chronology, with major achievements as bullet points.

Lead Engineer / CTO, Robots+Rockets / GroupFire LLC
March 2015—present

Robots+Rockets is a company that builds and creates products that lead to new companies. GroupFire is one such company; it is a communications platform for organisations that integrates membership tools, event management, messaging and group communication.

- Quickly adapted to working 100% remote from my home office, now in my fourth year.
- Managed a fully remote team of up to a dozen developers, designers and QA.
- Deeply involved in the interview and hiring process, iterating to improve results.
- Scoped, scheduled and managed project implementation to hit deliverable deadlines.
- Established an automated build system and production pipeline with JIRA/Git integration.
- Wrote a data analytics and reporting engine, with a realtime user engagement front-end.
- Integrated SendGrid, Twilio, MixPanel, SalesForce and Stripe.
- Implemented dynamic code push updates for mobile apps to facilitate quick rollout of changes.
- Set up monitoring and alerts to ensure we have around-the-clock coverage.
- Rapidly responded to critical customer issues, quickly turning around production hotfixes.
- Implemented realtime messaging, video upload, social media monitoring and more.
- Developed a dynamic heatmap of user locations to enable geospatial search by administrators.
- Onboarded thousands of user accounts for new customers, including Goldman Sachs.

Head of Development / Head of R&D, Agworld Pty. Ltd.
July 2011—March 2015

Agworld is an end-to-end Agribusiness solution, available on the web and iPad. My initial role was to fill the shoes of the CTO in Perth, while he relocated to the US to establish operations there. Over time I transitioned to focusing on research and data analysis.

- Wrote technical project documentation that led to us winning a cash-cow project.
- Automated production deployments to AWS, eventually hiring a full-time devops.
- Migrated the team to JIRA and Confluence, and established SCRUM.
- Wrote and open-sourced Soroban, a Ruby Gem that executes Excel formulas.
- Transitioned our codebase from REE 1.8.7 to JRuby, and later to MRI 2.1.3.
- Refactored our application configuration as a step towards continuous deployment.
- Transitioned our codebase from Rails 3.2 to 4.0.
- Wrote a tool to allow developers to retrieve database backups based on Git branch.
- Designed and implemented a stand-alone sync server for iPad data to replace RhoSync.
- Took over a reporting project and worked with the team to refactor it under intense pressure.
- Wrote an authtoken generator in C, wrapped in Objective-C and as a native Gem.
- Implemented a unit conversion extension to ActiveRecord, with a clear separation of concerns.
- Wrote and open-sourced Sangaku, a Gem to find the pole of inaccessibility for a polygon.
- Implemented a daemon to update calculated values via a dependency-driven event queue.

Senior Geophysical Software Engineer, DownUnder GeoSolutions
January 2011—June 2011

DownUnder GeoSolutions is a geosciences company that offers a diverse range of products and services to the global oil and gas industry. I worked there briefly, as a company restructuring saw a new development team start in Toronto. I was offered and accepted a redundancy package.

- Modernised the well bore visualisation system.
- Started development of a new well correlation view.
- Developed an automated seismic mistie correction package.
- Fixed numerous minor issues in the codebase that were the root cause of many bugs.
- Attempted to improve existing development practices

Founding Director, GeekPunk, July 2010—April 2013

GeekPunk was a web application development company that I established as a vehicle for me to experiment with various ideas, by researching and specifying them in detail, by building prototypes where practical, and by implementing them end-to-end where possible.

- Attended a "Startup Bootcamp", and pitched several business ideas to potential investors.
- Started GeekSalt, a small web development studio for creating restaurant websites.
- Canvassed 100 Perth-based restaurants, signing up only two customers.
- Designed, implemented and maintained websites for these restaurants.

Consultant, Titan Interactive, February 2010—June 2010

Titan Interactive is a web development company. I was invited to start consulting to them while working at Living Years. In three months we improved our average from three sites launched per week to almost twelve, without changing the team size.

- Introduced new tools, including JIRA, Confluence and Kanban.
- Started daily stand-up meetings and weekly post-mortems.
- Monitored the development pipeline, identifying blockages and optimising process.
- Specified and designed an email campaign manager and oversaw its development.

Project Manager, Living Years, March 2009—May 2010

Living Years was a web startup that made it easy for users to create memorials for friends and relatives that have passed away. I joined knowing that the project only existed as an idea, and that the site needed to launch in six months. We managed to go live precisely on schedule.

- Specified requirements, identified risks, and hired a development team.
- Implemented much of the core technology in the PHP-based Zend Framework.
- Introduced SCRUM, grooming the backlog and maintaining the scrum board and burndown.
- Wrote deployment scripts that were used for continuous integration.

Founding Director, RocketHands, February 2009—February 2015

RocketHands was an independent games company that I established with six former employees of Interzone. Altogether we completed over 40 game projects of varying complexity, on many platforms, using a variety of technologies.

- Pitched a game to Microsoft, but were unable to attract sufficient investment.
- Worked after hours and on weekends to launch two titles on the iPhone and one on iPad.
- Wrote many Flash-based games and downloadable games for the PC.
- Released several POC prototypes, and experimented with HTML5 and JavaScript.

Lead Programmer, Interzone Games, February 2007—February 2009

Interzone Games developed Interzone Futebol, a Soccer MMO, for the PC. I was recruited as lead programmer while still at Team Bondi in Sydney.

- Led a team of 13 very good programmers and spent half my time writing Python and C++.
- Worked with production, art and design to ensure that required features were technically feasible and accurately estimated.
- Helped programmers to remove roadblocks to ensure they were maximally productive.
- Liaised with QA to ensure that bugs were properly reported and then fixed in priority order.
- Drove planning and documentation initiatives.
- Wrote the beginnings of the automated build and deploy system.
- Designed and implemented the physics engine with both client and server components.

AI Team Lead, Team Bondi, October 2004—February 2007

Team Bondi developed L.A. Noire, a AAA sandbox detective game for the PlayStation 3. I was headhunted to lead the AI team, and was the first employee to join the senior management team outside of the founders, who had relocated from the UK. The game launched in May, 2011.

- Designed AI technology and implemented the bulk of the design in C++.
- Interviewed, hired, mentored and supervised a team of six developers.
- Wrote tools to allow game designers to enter and maintain data relevant to the game.
- Set up the build system, established the coding standard, and introduced unit testing.
- Developed a script to perform a one-button release of the game including compiled assets.

Programmer, Nautronix, January 2003—October 2004

Nautronix is a defense contractor that specialises in underwater acoustics. I worked with a small, close-knit team of developers in a very structured environment, with an existing code base of well-written C++ code. My time there was marred by a tragic aircraft accident.

- Tracked down and fixed a race condition between threads.
- Wrote a tool to process large volumes of multi-channel audio data.
- Designed and implemented a complete system to manage submarine testing, displaying the output of dozens of hydrophones, co-ordinating communications and controlling a device on the seabed at the end of a kilometres-long cable, and oversaw its installation.

Chief Scientist, Artificial Intelligence, July 2000—September 2001

Artificial Intelligence is a private research company that is developing technology which allows computers to use human language. Our project was to follow Alan Turing's advice of designing and building a "baby computer" that could learn from scratch.

- Performed research and implemented the resulting algorithms in C++.
- Worked to establish an online laboratory for public experiments.
- Devised and announced the "Learning Machine Challenge" at the AAAI conference, which saw individuals and research groups submitting entries to play various simple competitive games with undefined rules.
- Helped writers to generate content for our prototype application.
- Appeared in New Scientist, Wired, BBC News, the New York Times, and so on.

Programmer, Lionhead Studios, December 1999—June 2000

Lionhead Studios developed Black & White, a groundbreaking PC game that featured an advanced AI creature. I joined while the team was still very small, just as development was ramping up. The game "went gold" almost a year after my departure, with dozens of challenges written using the scripting system that I developed.

- Designed and implemented a scripting language using Yacc and Lex.
- Wrote a compiler for this language that generated bytecode for a stack-based virtual machine.
- Implemented the VM, supporting multiple virtual threads and co-operative multitasking.
- Set up a testing sandbox to allow scripts to be compiled and tested outside of the game.
- Wrote bindings to the game to expose functionality to the VM and thereby to the scripts.
- Optimised the code so that it required little CPU and memory resources.

Founding Director, Amristar, September 1999—January 2003

Amristar is an IT company that specialises in online mapping technologies. I established the company with four friends from UWA as an umbrella under which we could continue to perform innovative research while earning an income from contract work, with a view to bootstrapping ourselves to financial independence.

- Worked for a local real estate company to develop an interactive mapping technology in Java.
- Remained a "silent director" during my time overseas.
- Rejoined the team in 2002 to design and build a centralised workflow operations system for a chain of automotive repair centres.
- Left in 2003, then sold my share of the company in 2005.

Research Assistant, CSIRO, January 1990—December 1990

I joined the group in 1989, after completing high school. I had decided to spend the year in the workforce before commencing my Engineering degree.

- Wrote programs in QuickBasic and ported legacy Fortran code.
- Used CAD software to prepare 3D schematics for publication.
- Tested various materials by installing "strain gauges" before subjecting them to destructive tensile forces using specialised equipment.

PROJECTS   Here I give an overview of some personal projects. See my [my GitHub page](#) for more.

Aruma Room A digital art project for "Blazing Swan" that allows users to control lights, music, cameras and a projected starfield using hand motions.

MegaHAL A rewrite of my chatterbot, written in December 2014 using Ruby 2 and Rails 4, and released as open source. Implemented as a low-level native C Gem, a higher-level Ruby Gem, a Rails server and a daemon process.

National Eyeball A prize-winning website and RESTful API written for GovHack in 2014, using Ruby 2 and Rails 4. The site allowed may disparate sources of Government data to be viewed as a heatmap. An early demo video is available [on YouTube](#).

Laggydash An "infinite runner" written after hours in February 2014, using JavaScript and the Phaser library, and with basic Twitter integration. Multiplayer support was implemented with PubNub. Available to [play on itchio](#).

Bogus Quest A Flash game that I wrote for the Global Game Jam in 2010, designed deliberately to frustrate the player. Available to [play on Kongregate](#).

99 Sheep A shooter written in C++ using Haaf's Game Engine and Box2D, written for a local gamejam. The player was able to use an XBOX controller to collect sheep to form a long tail, which they could then use to defend themselves.

FAQoverflow A static website, available at https://faqoverflow.kranzky.com/, that makes it easy to browse the top content from all StackExchange sites.

Refrax An arcade game written in 2003 using C and the SDL library. Based on the pause mode from "Iridis Alpha", this game allowed four players to compete to clear each level.

NetShip In 1998 a local entrepreneur approached to develop this "kitchen sink" web portal in PHP. Over eight weeks I collaborated with another student to implement users, groups, permissions, preferences, tasks, a forum, a calendar, a file repository, a photo album, a diary and a ratings system.

SEPO In 1997, a German company purchased the technology I'd developed for the Loebner Prize that year. This took the form of a program, written in C, Yacc and Lex, that parsed data written in a custom language of my design, and which specified various rules for simulating a conversation.

WRITINGS   I like to write; here is a sampling of some of my favourite pieces.

- [TDD is 'Canard. Tell it to the duck.](#)
- [The Commodore 64 Spike](#)
- [Finding the Pole of Inaccessibility](#)
- [The Performance of JSON in Rails Sucks](#)
- [Ruby's Inspect Considered Harmful](#)
- [Distinctly Uncountable](#)
- *Conversation Simulation and Sensible Surprises*, invited book chapter for Parsing the Turing Test: Philosophical and Methodological Issues in the Quest for the Thinking Computer, 2008.
- (with Jonty Barnes): *Scripting for Undefined Circumstances*, AI Game Programming Wisdom, 2002.
- (with Anat Treister-Goren): *On Creating a Baby Computer and Training it to Converse*, Artificial Intelligence and Applications, 2001.
- *Conversing with Stochastic Language Models*, invited paper for the Third Workshop on Human-Computer Conversation, 2000.
- (with Michael Alder): *Finding Structure via Compression*, New Methods in Language Processing and Computational Language Learning, ACL, 1998.

REFERENCES   Please see my LinkedIn profile for testimonials from former colleagues.

- Jonty Barnes (Lionhead), Head of Production, Bungie (jontyb@microsoft.com).
- Ben Board (Team Bondi), Developer Manager, Microsoft (ben_board@yahoo.com).
- Yaki Dunietz, President, Artificial Intelligence (yaki@a-i.com).
- Dr. Michael Alder (PhD Supervisor), UWA (mike@maths.uwa.edu.au).

THANKYOU   I look forward to hearing from you regarding opportunities that match my career objectives. And yes, that's me in fancy dress as Nikola Tesla, a personal hero of mine.

Thanks for reading!