Jason Hutchens

CONTACT

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PROFILE

Senior programmer and team leader with over two decades of experience across a wide variety of industries seeking to work remotely from Perth, Australia on challenging and fun projects where I can make a measurable improvement to product quality.

SKILLS

Project management, system architecture, web development, devops, cloud computing, automated testing, AI, mobile app development, performance optimisation, technical writing, game design.

TECHNOLOGY

Ruby, Rails, Vue, React, Flutter, Rust, Python, C, C++, PostgreSQL, TypeScript, PHP, Java.

EDUCATION

Bachelor of Engineering (IT), UWA
January 1991—December 1994

- Developed a virtual reality system in second year.
- Worked as a lab demonstrator for various Engineering units.
- Set up one of the first online cameras.
- Wrote "MegaHAL", a conversation simulator, and made it available on the web.
- Achieved straight A+ grades in final year.

PhD (ABD), UWA
January 1995—December 1999

- Won the Loebner AI Prize in 1996.
- Travelled overseas extensively, visiting universities and conferences.
- Developed a sophisticated predictive language model in C.
- Worked as a tutor for various Engineering units.
- Submitted thesis in 1999, before relocating to the UK.

EMPLOYMENT
HISTORY

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

- Managed a fully remote team of up to a dozen developers, designers and QA.
- Established and managed a process to quickly onboard new corporate customers.
- Wrote a data analytics and reporting engine, with a realtime user engagement front-end.
- Implemented dynamic code push updates for mobile apps to facilitate quick rollout of changes.
- Added realtime messaging, video processing and social media monitoring to our product.
- Developed a dynamic heatmap of user locations to enable geospatial search by administrators.

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

- Implemented a dependency-driven event queue to recalculate expensive derived data.
- Developed a unit conversion extension to ActiveRecord, with a clear separation of concerns.
- Designed and implemented a stand-alone sync server for iPad data to replace RhoSync.
- Wrote technical project documentation that led to us winning a cash-cow project.
- Took over a reporting project and worked with the team to refactor it under intense pressure.
- Agworld was acquired for $100M in late 2021.

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

- Worked on well bore visualisation, correlation and mistie correction in Java.
- Made redundant after six months when development was moved to the Chicago office.

Founding Director, GeekPunk
July 2010–April 2013

- Established company with a friend as part of a six-month "sabbatical".
- Developed an innovative text entry technology to replace unwieldy OSKs.
- Launched a static web application with the best Q&As from *Stack Overflow*.
- Started GeekSalt, a small web development studio specialising in restaurant websites.

Consultant, Titan Interactive
February 2010—June 2010

- Invited to start consulting while working at Living Years.
- Introduced JIRA for project management and issue tracking.
- Established daily stand-ups and weekly project post-mortems.
- Specified and designed an email campaign manager, and oversaw its development in Rails.
- Monitored the production pipeline, identifying blockages and working to optimise processes.
- Improved our throughput from three sites launched per week to almost twelve.

Project Manager, Living Years
March 2009—May 2010

- Joined six months before a drop-deadline product launch, with no development team.
- Worked with stakeholders to specify project requirements and identify risks.
- Interviewed and hired a development team of three people from over a hundred applicants.
- Planned a series of six two-week sprints to deliver maximum value within time constraints.
- Maintained a physical backlog of user stories, scrum board and burndown chart.
- Wrote code and tests and built and managed the continuous integration process.
- Conducted in-person usability testing with volunteers who responded to newspaper ads.
- Launched on schedule after spending a month in beta testing.
- After launch, I worked to support our growing userbase, and continued feature development.

Founding Director, RocketHands
February 2009—August 2015

- Started with six former employees of Interzone to pitch an Xbox360 title to Microsoft.
- In mid-2009 we changed tack, and focused on developing projects for the iPhone.
- Launched two titles on the iPhone and one title on the iPad.
- Released several proof-of-concept prototypes for free for desktop PC and the web.

Lead Programmer, Interzone Games
February 2007—February 2009

- Managed a team of thirteen programmers, while still writing C++ and Python myself.
- Removed roadblocks and ensured all team members were maximally productive.
- Worked with production, art and design to ensure required features were technically feasible.
- Assisted QA to properly report, reproduce and prioritise bugs.

- Liaised with IT and external software vendors to keep all systems functional.
- Created the physics engine, gameplay code, various tools and the build system.
- Participated in several "game jams" to protype new gameplay concepts.
- Drove planning and documentation initiatives.

AI Team Lead, Team Bondi
October 2004—February 2007

- Responsible for designing AI technology and implementing the bulk of the design in C++.
- Interviewed, hired, mentored and supervised a team of six developers.
- Oversaw the navigation system, intelligent camera, traffic simulation and NPC behaviour.
- Developed tools to allow game designers to enter and maintain game data.
- Worked outside of my role to establish an automated build with unit testing.
- Introduced coding standards and encouraged the adoption of software scheduling.
- Developed miscellaneous tools for generating code and prototyping algorithms.

Programmer, Nautronix
January 2003—October 2004

- Worked with a small, close-knit team with an existing code base of well-written C++ code.
- Fixed race conditions in unit tests that involved multi-threaded network communications.
- Campaigned for a smarter locking while minimising the side-effects of the current practice.
- Developed a program to process, resample and export large volumes of multi-channel audio.
- Designed and implemented a system for managing and monitoring on-site submarine testing.
- Installed and tested the software on location.

Founding Director, Amristar
September 1999—January 2003

- Co-founded with four friends to continue research projects while consulting.
- Built an interactive mapping system for a local real estate business.
- Developed a centralised workflow operations system for a chain of automative repair centres.
- Created and presented a training course for store managers.
- Entered the Google Programming Contest with a text correlation system written in C.
- I remained a "silent director" during my time overseas in 2000 and 2001.

Chief Scientist, Artificial Intelligence
July 2000—September 2001

- Led a decade-long project to build a "baby computer" to learn human language from scratch.
- Responsible for hiring a team that would implement a system of my design.
- Designed the various learning algorithms used by the baby computer.
- Worked to establish an online lab for pattern recognition experiments.
- Devised and announced the "Learning Machine Challenge" at the AAAI conference.
- Helped writers to generate content for a commercial Siri-like chatterbot project.
- Underwent media training and was featured in New Scientist, Wired, the NYT and so on.
- Attended many conferences and workshops where I presented research papers.
- By 2001 our baby computer had reached the linguistic competence of an 18-month-old.
- Project was terminated prematurely by the events of September 11, 2001.

Programmer, Lionhead Studios
December 1999—June 2000

- Developed a system for authoring "challenges" for the player to complete.
- Wrote a parser for pseudo-code written by game designers to prototype challenges.
- Implemented a compiler for this challenge code that generated bytecode.
- Built a stack-based VM to execute the bytecode, supporting multiple threads.
- Created an API to allow the VM to make calls into the game code to manipulate entities.
- Packaged the compiler and VM into a DLL that could be reloaded by the game on demand.
- Mocked the game interface to allow compiled scripts to be tested independent of the game.
- Optimised the code once it was functionally complete to minimise CPU usage.

Freelance Developer
June 1997—September 1999

- Used Yacc and Lex to develop a novel chatbot engine for the Loebner Prize.
- Sold this software to a company in Germany and visited them in Hamburg.
- Developed a "kitchen sink" web portal for a South African entrepreneur.

Research Assistant, CSIRO
January 1990—December 1990

- Joined after completing high school as a gap year before University.
- Wrote programs in QuickBasic and ported legacy programs from Fortran.
- Used CAD software to prepare 3D diagrams for publication.
- Tested various materials by installing "strain gauges" before subjecting them to destructive tensile forces using specialised equipment.

SELECTED
PUBLICATIONS

Copies of these papers are available on request. Please see my blog for more writing examples.

- *Language Acquisition and Data Compression*,
  1997 Australasian Natural Language Processing Summer Workshop, 1997.
- *Finding Structure via Compression*,
  New Methods in Language Processing and Computational Language Learning, ACL, 1998.
- *Conversing with Stochastic Language Models*,
  Invited paper for the Third Workshop on Human-Computer Conversation, 2000.
- *A Unique Interplay between the Development of Learning Algorithms and their Education*,
  Modeling Cognitive Development in Robotic Systems, 2001.
- *On Creating a Baby Computer and Training it to Converse*,
  Artificial Intelligence and Applications, 2001.
- *Scripting for Undefined Circumstances*, AI Game Programming Wisdom, 2002.
- *Conversation Simulation and Sensible Surprises*,
  Invited book chapter for Parsing the Turing Test, 2008.
- *Artificial Intelligence as Entertainment: Towards Industry-Relevant Game AI Research*,
  IEEE Transactions on Computational Intelligence and AI in Games, 2011.

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).