

Dieter Buys

SOFTWARE ENGINEER · DEV OPS

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Summary

Software Engineering Leader with expertise in DevOps and Cloud Infrastructure.
My passion is to leverage technological innovation for the good of humanity.

Skills

Programming	Python, Javascript, C/C++, Go
Web	React, Electron, NodeJS, HTML, CSS, FastAPI, Flask, Django, SQLAlchemy
Dev Ops	Terraform, Ansible, Docker, Kubernetes, Jenkins, Prometheus, Grafana
Database	MongoDB, Elasticsearch, DynamoDB, PostgreSQL, MySQL
Sys Admin	Unix, OSX, Bash, Nginx, Apache, Wordpress
Mathematics	Calculus, Linear Algebra, Probability & Statistics, Computational Geometry
Communication	Business Writing, Documentation, Public Speaking, Tutoring, Mentoring

Experience

Sanctuary AI

Vancouver

LEAD DEVOPS ENGINEER

Nov 2022-Dec 2022

Sanctuary AI is on a mission to create the world's first human-like intelligence in general-purpose robots. Its humanoid robot Phoenix won a TIME magazine award for best invention of 2023 in the robotics category.

- Managed the DevOps & MLOps team.
- Hired & bar-raised for DevOps, Software Engineering & Manager roles.
- Built & operated CI/CD pipelines for multiple services & applications.
- Designed & developed services to improve scalability and efficiency of Sanctuary AI's cognitive architecture.
- Architected decentralized data capture & offload system for the Phoenix robots
- Mentored Junior Engineers & Co-Ops to advance their SRE & Software Engineering skills

CubicFarm Systems

Remote

SENIOR INFRASTRUCTURE ENGINEER

May 2022-Sept 2022

CubicFarm Systems is a controlled-environment agriculture company that specializes in automated hydroponic farming. They have two product lines: CubicFarms for leafy greens and Hydrogreen for livestock feed.

- Constructed and operated a microservice architecture software stack for the Hydrogreen product line.
- Deployed control systems software for IoT edge devices, a web API and a front-end web application to support Hydrogreen.
- Developed and maintained build pipelines for the over 20 microservices comprising the architecture for CubicFarms and Hydrogreen.

Tally Inc.

Remote

CONSULTING STAFF SOFTWARE ENGINEER

Feb 2021 - Oct 2021

Tally Inc. is a financial automation company that provides consolidation and repayment assistance for credit card debt.

- Handled migration of primary website (www.meettally.com) from in-house Wordpress to Contentful managed by a subcontractor.
- Drove the upgrading of the website from hand-crafted EC2 instances to ECS cluster defined in Terraform, with much improved availability, security, observability and maintainability.
- Mentored intermediate engineer and assisted in her task of consolidating the company's 5 VPNs down to 1.

HSBC Digital

Vancouver & Remote

CONSULTING STAFF SOFTWARE ENGINEER

Feb 2018 - Feb 2021

HSBC Digital is the division of HSBC International that develops and operates the HSBC mobile application (which has over 1.34 million active users), websites & web applications, and R&D for various digital innovation products.

- Responsible for operating, evolving and scaling the CICD pipeline for the HSBC cross-platform mobile app supporting over 60 developers 24/7/365 across 4 time zones, producing over 1,000 builds a day for 43 locales using a hybrid Jenkins cluster with more than 100 nodes.
- Developer and maintainer of custom tooling for developers, managers and bankers to streamline development and enhance product quality.
- Hired and trained engineers to meet the unique security and regulatory challenges of the banking sector as well as the enormous organizational scale at HSBC.

Urthecast Inc. (now Urthedaily Analytics)

Vancouver

SENIOR SOFTWARE ENGINEER

Oct 2015 - Feb 2018

Urthecast owned and operated 4 advanced orbital optical sensors (2 satellites and 2 on the ISS) to provide scientific-grade satellite imagery for Agriculture, Science, Urban Planning, Insurance, Intelligence and other applications. As one of Canada's largest aerospace companies, they were also leaders in developing a scalable optical data processing pipeline and a platform for delivering geospatial data from a vast catalogue spanning a diverse set of sources.

- Key contributor to the planning, architecting and development of the next generation optical processing pipeline, data repository, calibration and validation system and testing framework.
- Co-authored a successful proposal worth \$1.1 million for the Canada's Innovation Supercluster initiative, a public-private-academic partnership involving Urthecast, the University of Victoria and Microsoft Canada to define a new standard for integrating diverse geospatial data into a single platform to democratize access and facilitate innovative research.
- Contributed significant code to enhance the architecture of the optical processing pipeline. Also implemented a reprojection & tiling subsystem for sensor cross-calibration.
- One of two engineers assigned to take over the legacy data platform from the Urthecast office in San Francisco. I became a maintainer of the back-end services, the web application and the data packaging service, to which I made significant improvements including a 4x reduction in storage cost and 2x increase in resampling performance.
- Co-developed an automated process to migrate more than a petabyte of indexed geospatial data from raw data on S3 to a compressed format with an archiving system based on Glacier and S3.

Demonware (part of Activision Blizzard Inc.)

Vancouver

SENIOR SOFTWARE ENGINEER

Oct 2013 - Jul 2014

Demonware provides the back-end services for many of Activision's AAA titles including the *Call of Duty* and *Skylanders* series representing tens of millions of users.

- Contributed to the design and implementation of the next iteration of web services for matchmaking, stat tracking, authentication on Xbox Live and Playstation Network as well as cross-platform data services for the *Call of Duty: Advanced Warfare* and *Call of Duty: Ghost* mobile application and website.
- Also contributed to the infrastructure code and operation of the *Diablo 3: Reaper of Souls* back-end web services.
- These services are RESTful web APIs that routinely handle thousands of requests per second and withstand frequent denial of service attacks and hacking attempts.

Popcap Games (part of Electronic Arts)

Vancouver

SENIOR SOFTWARE ENGINEER

Jan 2011 - May 2013

Popcap games was a major casual gaming company, the makers of *Candy Crush* and *Plants vs Zombies*. In 2011 Electronic Arts acquired them for \$1.2 billion, and as part of that acquisition a new studio was formed in Vancouver to develop a portfolio of browser-based hidden object games.

- Contributed as senior software engineer to game *Hidden Agenda* including an isometric renderer, numerous gameplay mechanics and deep integrations with social media and e-commerce services.
- Developed interactive graphical tools for the designers and artists to create content for the game and trained them on their use.

Vivify Labs Inc. (now part of Rosetta Stone)

Vancouver

SOFTWARE ENGINEER

2008 - 2011

Vivify Labs developed and operated a portfolio of "brain training" games that exercise various forms of cognition such as memory, vocabulary, arithmetic, deductive reasoning, etc. These were integrated into a web-based stat tracking and analysis system. It had a userbase of over 20 million users. Vivify Labs was acquired in 2013 by Rosetta Stone for \$12 million.

- As a software engineer I developed several mini games for the portfolio in collaboration with the designers and artists. I was also responsible for server administration, database schema design & migration and RESTful API development.

Threewave Software Inc

Vancouver

JUNIOR SOFTWARE ENGINEER

2006 - 2008

Threewave Software was a video game development studio that specialized in multiplayer AAA titles for the PC, Playstation 3 and Xbox 360.

- Contributed significant gameplay and rendering code to the *Ghostbusters* video game including AI, physics, rendering, gameplay logic and heads-up display.
- Implemented heads up display features and debugging for EA's AAA title *Army of Two*.

Education

University of British Columbia

Vancouver, British Columbia

B.S. IN COMPUTER SCIENCE

2002-2006

- Led a student programming & design team to reconstruct classical architecture in Unreal Engine & served as a teaching assistant in a *Greek History 100* course utilizing this technology.
- Developed a bespoke web application for the Department of Anthropology at UBC.
- Attended graduate school Computer Science classes in Computational Geometry and Character Animation while an undergraduate.

Amazon

AWS CERTIFIED SOLUTION ARCHITECT – ASSOCIATE

2017