

Patrick Colm Audley

CTO at Large, Technologist, Security,
Geospatial Analyst and Scalability Consultant

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Pronouns: He/him/his, one, xe/xir

Updated version always at:

- <https://patrickaudley.com/cv.html>
- <https://patrickaudley.com/cv.pdf>
- <https://patrickaudley.com/cv.docx>
- <https://patrickaudley.com/cv.txt>

Founder, coder, executor and analyst.

I am a veteran of several very successful startups and greatly enjoy the challenge of taking risks and forging a new business. I'm very interested in growing my skills and am a continuous learner and teacher; I lean towards projects that mesh my business skills with my technical expertise.

If you really want my attention, dangle an interesting problem in front of me.

Current passions:

Golang, Python, geospatial and data science, massive-scale distributed things (grid, DAOs, IoT, etc.), complex SQL, AI endeavours, cloud wrangling, cryptology.

Specialties:

- Scalable, high-performance development, management and architecture in a variety of languages and environments.
- Extensive UNIX and networking background including supercomputing, R&D work, cloud computing and satellite data analysis.
- Superb at managing the interface between computing and non-computing worlds.
- Automation. Automation. Automation.
- True, snout to tail, full-stack development.

Experience

Blackcat Informatics Inc.

JAN 1994 TO PRESENT

Principal Management Consultant

Blackcat Informatics Inc. provides high-end IT and management consulting services to the Vancouver startup community. We have over 20 years of solid startup experience in management as well as domain expertise covering high performance and cloud computing, military-grade security, carrier-grade networking, blockchain, bioinformatics, machine learning, satellite imaging, cryptology and a variety of other niche fields.

- CTO at large: high-level management and guidance, executive oversight and execution.
- Development Alignment: helping to bring development shops in closer alignment with the rest of the company (et vice versa), agile process tuning, development HR help.
- Solution Architecture: finding elegant solutions to complex technical problems, applying sparse resources efficiently and future-proofing technology strategies.
- Cloud Navigation: large-scale deploys, from clusters and grids to lambdas and microservices, devops automation and helping you navigate the rapidly evolving cloud.
- Startup Process and Execution: managing a path through the wilds of the startup and early-stage funding world with less pain and more success.
- Programming: Golang and over 15 other languages spoken, AI and machine learning, spatial data analysis and bespoke esoterica.

Tanka Technologies Inc.

JAN 2017 TO JAN 2022

CTO

Building global scale high throughput real-time geospatial analysis, correlation and intelligence systems.

Leveraging human and machine intelligence to solve problems we could not imagine a few years ago.

- Built a worldwide early wildfire detection system with NRT analysis of heterogeneous satellite feeds, fusing data from public sources (GOES-R, Modis, VIIRS, Himawari, etc.) and running both statistical and ML-based detection systems. Drove large-scale data visualizations in the browser using leaflet and other GIS open-source stacks.
- Provided data to several governments and government agencies alongside commercial customers.
- Worked with multiple university-embedded research clusters on LiDAR integration, forest composition, industrial source analysis, and other related topics.
- Wrangled a massive 30TB PostgreSQL data store and routinely wrote, optimized and tweaked very complex PostGIS queries.
- Generated and fleshed out both research and commercial trajectories.

Chief Technology Officer

At ESG Analytics, I help bring the promise of AI and big data to impact investing.

The passionate team at ESG is working on bringing deep insights into the secret lives and actions of companies to retail and institutional investing.

In a space filled with self-assertions about corporate good and vague environmental statements, we help to bring cold, hard facts to the table and sift through the massive amount of data that corporations routinely shed to find the really important details about their behaviour.

ABT Capital Markets Inc.

MAY 2018 TO PRESENT

President & COO

ABT Capital Markets Inc. is a FinTech company developing a Compliant Blockchain Platform that will enable tokenization of Private Equity, Venture Capital, Real Estate and other alternative investments. ABT's Asset Backed Tokens™ will enable anyone, anywhere to invest in private equity markets.

- Successfully operated a reporting issuer for many years.
 - Worked on bridging the regulated capital markets with the wild west of crypto.
 - Performed deal due diligence regularly and was responsible for legal vetting.
 - Worked with multi-blockchain solutions, wrote solidity contracts and otherwise participated fully in the Vancouver crypto community.
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Strutta

MAY 2015 TO AUG 2021

CTO

I worked with Strutta's great team of social marketing experts building social promotion platforms and working to measure and shape brand engagement.

- Ran the dev teams at Strutta over several product iterations including all aspects of hiring, team building, training and direction.
 - Set the broad technical direction of Strutta and its fleet of related companies.
 - Operated in a public company as senior management.
 - Worked extensively with distributed teams and product owners.
 - Navigated the continuously changing rapids of social engagement technology for many years and survived to tell the tale.
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Mobio Technologies Inc.

MAY 2013 TO AUG 2021

Managing Director Technology

Note: Mobio was acquired by LX Ventures, which subsequently rebranded as Mobio.

- Responsible for the overarching technical landscape and making sure that we get the best use of our stellar resources and minds. This position covers the spectrum from acquisition due diligence, budget planning, managing the cloud infrastructure for all our sub-companies, hiring and HR for our tech staff, as well as managing the teams.
 - Built a large-scale cloud stack for a site in the Alexa top 5000 sites of 2014. Led several multiplatform deploys covering AWS, GCE and Heroku. These were incredibly fun projects that involved DBA work, devops, massive scaled load testing and all the trimmings.
 - Database administrator of last resort (read: the person who fixes evil problems).
 - Managed other duties as part of the executive team for a public market incubator
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Calyx Bio-Ventures Inc.

NOV 2017 TO NOV 2018

Technical Advisory Board Member**PlaceSpeak Inc.**

JAN 2015 TO APR 2015

Acting (temporary) CTO

At PlaceSpeak, I was part of a team that was helping to bring deep, meaningful location-based consultation and democracy into the world.

I helped guide technology decisions and worked with the government and the funding community regularly.

Mobio Technologies Inc.

AUG 2011 TO MAY 2013

Chief Architect, VP Engineering

- Cloud deployments, devops automation and the challenges of a lean startup development shop filled most of my days. If I was daydreaming at Mobio, it was probably about game theory, stats or new ways to use the cloud.
 - Completed a PCI DSS 2.0 audit of an entirely cloud-based financial transaction processing stack (challenging in 2011!).
 - Managed several pivots and navigated a twisted labyrinth of business plans.
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Dominion Enterprises

JAN 2011 TO AUG 2011

Integration Architect

In this broad position my time was split between moving groups within Dominion into more scalable technologies, making sure the right mix was chosen and getting my hands dirty implementing and testing. I did all the cloud bits for DMM as well as security and DRP during my brief stay there.

Chaordix

AUG 2008 TO JUL 2010

VP Technology

- Led the technical commercialization effort for a major crowdsourcing platform.
 - Built a custom high-performance framework in support of the above to replace the Zend Framework with something more suited to the specifics of our development cycle and needs.
 - Managed a team of 4-7 programmers and technologists to deliver real products, on time, on budget and feature complete.
 - Assisted the sales process and was involved in various capacities in most of the corporate activities.
 - Worked on commoditizing IP and product architecture.
 - Responsible for the overall technical direction of the company.
 - Generally had a lot of fun and I hope my staff did too!
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Galaxy Telecom

JAN 2008 TO JUN 2008

Hacker

Security auditing of the existing codebase. Extending and enhancing (read: code uplift) the PHP management system. Worked with the VOIP systems for provisioning, etc.

Cogneto Development Inc.

FEB 2006 TO OCT 2007

Chief Technology Officer

Founded Cogneto in February 2006 has helped raise £1.2 million. Assembled a world-class programming team and built a software development program deeply meshed with user-centric design and high-security programming. Touched almost all the facets of building a first-rate startup. Contributed to a rich patent portfolio spanning over 12 patents.

Adzilla New Media

DEC 2004 TO JAN 2006

Sr. Software Architect

- Designed, developed and deployed a high-throughput, cross-platform ICAP server using a multiprocess, multithreaded architecture to handle seamless inline web content modification.
 - Managed a programming group with Java, C++ and Ruby programmers.
 - Was responsible for all development direction, specification, and management. Used cutting edge C++ tools in a heterogeneous UNIX environment including BOOST, XMLRPC, and SOAP.
 - Implemented and managed a full SDLC process that included ticket-based code control with extensive version management.
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University of Dundee

APR 2002 TO MAY 2004

High-Performance Computing Manager

- Managed the specification and provisioning of a 20TB SAN based primarily on IBM hardware and Tivoli Storage Manager. Delivered a system that provided 2Gbp/s pure NFS file services.
- Designed and implemented a new network backbone based around Cisco network equipment. The new backbone included extensive security, network address translation and intrusion detection.
- Built monitoring and configuration tools that self-discovered network switch topology, modified network configurations and

identified problem areas as the network grew.

- Built a 100 processor research cluster using a custom PXE and imaging system.
 - Implemented Sun Grid Engine and wrote a software deployment package for the cluster.
 - Involved in several biological research projects.
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GT Group Telecom

OCT 1997 TO MAY 2001

Sr. Ecommerce Architect

- Designed and supervised the construction of two high-security PKI vaults and associated infrastructure.
 - Coordinated a national audit of GT's networks, systems and physical security that encompassed over 2000 systems, 1000 networks, 3 autonomous routing domains and 16 cities.
 - Performed many data forensic investigations and was a key member of GT's Computer Security Incident Response Team.
 - Was responsible for network security in all of Group Telecom's high-security networks and added extensive security experience to the team.
 - Designed several PKI-based applications in Perl, C, C++, and PHP including the Realtorlink Hybrid Authentication system and Secure Private Internet Messaging (SPIM).
 - Was responsible for the design and implementation of all of Group Telecom's PKI-centric applications, services and facilities.
 - Provided Sales support for our PKI and security products.
 - Delivered business assessments for potential partners and clients.
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Axion Internet Inc.

MAY 1996 TO AUG 1997

System Administrator / MIS

- Was responsible for all UNIX administration and setup.
- Maintained a very large network with an installed base of WinNT and Sparc servers.
- Extensive experience with Enterprise IT Infrastructure including designing and maintaining DNS, POP mail, sendmail, INN, and caching services for a 15,000 user network.
- Dealt extensively with both BC Tel Business and BC Tel Advanced Communication.
- Redesigned network topology and routing.
- Proficient with all duties relating to running an Internet Service Provider.
- Designed the user tracking and online time billing program, integrating diverse data sources into an object-oriented database.
- Extensive product and marketing research.

Education

School of Hard Knocks (Internet Edition)

1993 to 1995

Young Hacker

I spent much of my pre-work life in the pre-Internet communities.

I ran several BBSes, worked with what would now be called micro startups and generally hacked around.

Skills

Cloud Computing, Agile Methodologies, Software Development, PHP, Databases, Start-ups, Integration, Web Applications, Unix, E-commerce, Linux, Security, Perl, Mobile Applications, MySQL, SaaS, Software Design, Ruby, JavaScript, Subversion, Mobile Devices, Architecture, Amazon Web Services (AWS), Web Development, Scalability, Apache, Software Engineering, C++, XML, OOP, Product Development, Entrepreneurship, Network Security, Web Services, AJAX, Scrum, Cryptography, jQuery, LAMP, Android, Managed Services, Data Center, PKI, REST, Program Management, STL Metaprogramming, Security Management, Open Source, goLang, Cryptocurrency

Publications

System and method for user polling over a network

Patent pending (13/538,858), USPTO

All about voting over new media and methods for soliciting user votes.

OXBench: a benchmark for evaluation of protein multiple sequence alignment accuracy

BMC bioinformatics

The alignment of two or more protein sequences provides a powerful guide in the prediction of the protein structure and in identifying key functional residues, however, the utility of any prediction is completely dependent on the accuracy of the alignment. In this paper, we describe a suite of reference alignments derived from the comparison of protein three-dimensional structures together with evaluation measures and software that allow automatically generated alignments to be benchmarked.

Evaluating Usability and Security With Users of All Ages

Computer/Human Interaction 2007 Position Paper

Although studying the users of security technologies already presents unique challenges for HCI, testing these technologies with users of all ages (including children and the elderly) introduces many other issues that must be addressed. Among these, understanding special ethical and legal considerations, addressing protocol compliance, and managing testing outcome expectations need additional attention. Based on our experiences in testing with users of all ages, we suggest some strategies for dealing with these kinds of issues.

Languages

English

(Native)

French

(Limited working proficiency)

Recommendations

Danny Wood

07/13/16, 06:46 PM

Chief Product Officer, Tilt

A wide range of abilities and talents combined with strong leadership and coaching capabilities make Patrick a fantastic CTO. He is an essential part of our team at Strutta, and we are never worried about critical development operations considerations thanks to his presence. Additionally, Patrick is always enjoyable to work with and uses his excellent people skills to motivate teams and ensure the best result.

Manu Kapoor

05/27/15, 05:59 PM

Senior Frontend Engineer, Rival Technologies

Patrick has an unparalleled sense of pragmatism when it comes to making software architecture choices. He possesses an encyclopedic knowledge of zero-day exploits and general security concerns. I've been grateful for his DevOps skills countless times in the past.

It has been an educational experience working with him for the past three years.

Sabrina Gould

05/08/14, 10:47 PM

Data Entry Clerk, Maxwell Geo Services

Patrick was wonderful to work for: he was informative, his directions were clear, his communication was top-notch and his correspondence was always delivered in a timely fashion. I would definitely work with Patrick again.

Michael Chiang

04/06/13, 08:52 PM

Senior Data Scientist, Workday

Patrick is a combination of an impressive body of knowledge, hobbyist-like interest in technology, and acute business sense. He regularly found robust solutions to enhance Mobio's cloud platform, whilst keeping a keen eye on the ever-shifting business landscape of a fast-paced start-up. As a leader, he was always well-informed, enthusiastic, astute in giving advice, and was most respectful and encouraging. I enjoyed and learned much from working with Patrick, and strongly believe that he would add tremendous value to any team.

Randy Corke

12/05/12, 02:46 PM

Marketing, The Dinner Daily

Patrick is a what I call a "visionary technologist" who sees the possibilities, not the reasons things can't be done.

His rare combination of deep knowledge of a wide array of technologies, hands on technical expertise, and the ability to manage a team put it all together put him in a small class indeed. Add to that the ability to explain things in a way that laymen can understand which makes him incredibly valuable in a discussion with clients or prospects, and you can understand why I enjoyed working with him and recommend him highly.

Galya Westler

11/14/11, 09:51 PM

Product Specialist & CEO, Plazus Technologies Inc

Patrick and I worked on mutual projects and he has been one of the fastest most reliable Integration Architects I have worked with providing smart solutions. Patrick professionalism, great business sense and high technical skills make him lovable and highly respected among peers and managers and his talent is missed in Dominion.

I hope that we'll have an opportunity to work together again in the future.

Lance Bryant

08/17/11, 06:11 PM

Senior Developer, Neo Financial

Patrick was always willing to help with technical concerns and supported his staff all the way to production!

Lindsey McEwan

08/31/10, 01:42 PM

Hands on Creative Marketing Manager, Freelance

I have known Patrick for many years. I have had the opportunity to work with him on a project on one occasion. Like me, Patrick is a self starter with a keen eye for solutions. He is one of those brilliant lights and every company should have one.

Bruce Sanderson

03/03/09, 07:12 AM

CEO, DocVM

Patrick was an invaluable asset to Galaxy and helped provided significant advancements for the company.

Michael Vay Lee

07/11/07, 11:43 PM

Director Software Engineering, Article

Patrick is truly one of a kind. Behind the pirate meets cowboy façade, lay a truly exceptional technical architect. His experience and more importantly, vision, empowered the development team to build cutting edge software. It was a pleasure to work for Patrick.