POUYA ATAEI

Software Engineer & Computer Scientist (PhD in Big Data)

@ pouya.ataei.7@gmail.com   in pouya-ataei-bb1254ba   ⚙ polyhistor   R² Pouya-Ataei

🧠 Precursor

This identification is merely the idea of myself to provide with specious and precarious sense of permanence. For this idea is relatively fixed, being based upon carefully selected memories of my past, which have a preserved and fixed character. Social conventions therefore, encouraged me to form this idea of myself with equally abstract symbolic roles, and stereotypes.

💗 What I have to offer?

I am a passionate Software Engineer and Computer Scientist with over 12 years of industry experience in building and architecting enterprise-scale solutions. Throughout my career, I've successfully designed and implemented high-performance systems serving millions of users, with expertise in distributed Big Data and AI systems developed during both my academic and professional journey.
I've grown through diverse roles including Software Engineer, Tech Lead, Lead Architect, and Development Leader, while also pursuing my interests in research and teaching. I thrive on solving complex technical challenges at scale and approach each project with both analytical precision and creative innovation, consistently perceiving the multitudes of complexity within simplicities.

🤝 What I'm looking for?

- Company with a vibrant and positive environment.
- Direct engineering hands-on involvement.
- Time and opportunity to learn and apply emerging technologies.
- Friends to build a good products with.
- Work hard, but not at the weekends.
- Solution architecture and leadership opportunity.

</> Skills

Skill	Rating	Skill	Rating
Javascript/Typescript	●●●●◐	Terraform, Pulumi, CDK	●●●●○
React, Redux, and the Ecosystem	●●●●◐	Kafka/Redpanda	●●●●○
HTLM5 & CSS3	●●●●◐	AWS	●●●●◐
Frontend Architecture	●●●●◐	Google Cloud, Azure, Vercel	●●●●○
Node/Bun/Deno	●●●●◐	Kubernetes/Docker	●●●●○
Golang	●●●◐○	PHP	●●●◐○
Rust	●●●○○	C#/Java	●●●◐○
C/C++	●●●○○	Python	●●●●○
Software Architecture	●●●●◐	Linux/Bash/Awk	●●●●○

Distributed Systems	●●●●○	SQL/NoSql	●●●●○
Design Patterns	●●●●○	ES, MongoDB, Vector Databases	●●●●○
Data Structures & Algorithms	●●●●○	Qualitative/Quantitative Research	●●●●◐
Big Data	●●●●◐	AI	●●●●○
Data Engineering	●●●●○	TensorFlow/PyTorch	●●●◐○
SQL/NoSql	●●●●◐	Vector Databases	●●●◐○

💼 Work Experience

Engineering Manager at Invenco by GVR
📅 *Aug 2024 – Current*
Auckland, New Zealand

- Lead the strategic 'Engage' domain, overseeing critical distributed systems that operate at world-class scale.
- Architect and implement advanced observability solutions using OpenTelemetry, significantly enhancing system monitoring and performance tracking capabilities.
- Drive technical excellence through cloud-native architectures, leveraging AWS, Kubernetes, and Kafka for robust distributed systems.
- Oversee development across diverse technology stacks including Node.js, Go, C#/.NET, and Snowflake for data warehousing solutions.
- Lead cross-functional engineering teams in delivering high-performance solutions while establishing best practices for distributed systems development.
- Implement innovative observability techniques to improve system reliability and performance monitoring.
- Collaborate with stakeholders to align technical strategies with business objectives and ensure scalable, maintainable solutions.
- Foster a culture of engineering excellence and continuous learning within the team.
- Guide architectural decisions and technology choices to support the organization's growth and scalability goals.

Tech & Tools: AWS, OpenTelemetry, Node.js, Kubernetes, Docker, Terraform, GitLab CI/CD, Microservices, Python, Bash, Vector Databases, TensorFlow

Development Team Leader - Cloud Services at Invenco by GVR
📅 *July 2024 – Aug 2024*
Auckland, New Zealand

- Lead a cross-functional team in developing and maintaining cloud-based payment solutions, fostering innovation and continuous improvement.
- Architect and implement scalable cloud services, ensuring high performance and security standards are met.
- Created and implemented a comprehensive observability plan using OpenTelemetry, significantly enhancing system monitoring and troubleshooting capabilities.
- Successfully scaled our terminal infrastructure to handle over 300,000 requests in under 30 minutes, dramatically improving system capacity and responsiveness.
- Drive adoption of modern software engineering practices, including microservices architecture and serverless computing.
- Collaborate with stakeholders to define technical roadmaps, balancing immediate needs with long-term strategic goals.
- Mentor team members, facilitating their professional growth and fostering a collaborative work environment.
- Spearhead the integration of DevOps practices, improving deployment frequency and reducing time-to-market for new features.
- Stay abreast of emerging technologies, evaluating their potential impact on the organization's cloud strategy.

Tech & Tools: AWS, Kubernetes, Kafka, OpenTelemetry, Node.js, Go, C#/.NET, Snowflake, Terraform, Docker, GitLab CI/CD, Python, Bash, Vector Databases, TensorFlow

Lead Development Architect at Idexx Laboratories
📅 *Sep 2021 – July 2024*
Auckland, New Zealand

- Stood responsible as one of the company's lead architects, taking part in critical technological decissions across different regions.
- Worked on an event-driven architecture using Kafka, deployed and tested an archetype with consultants from Confluent.
- Presented the company and engaged with representatives from Databricks, Heap, Apollo, AWS, Gitlab, Confluent, BizzDesign and others.
- Created a scientific methodology for software delivery.
- Introduced novel data-driven approaches to decision making.
- Designed infrastructure, appications and integrations on daily basis.
- Coached and mentored junior, intermediate and senior engineers, providing guidance on best practices, and best ways to learn.
- Supported various teams in various feature development through high-level models and also hands-on coding.
- Completed various leadership courses, including CASCADE, and practiced servant leadership principles, prioritizing team growth and well-being.
- Applied concepts from "Leaders Eat Last" and "The Servant" to foster a culture of trust and collaboration, leveraging Team Topologies and Domain-Driven Design to streamline communication and align team efforts.

Tech & Tools: Archimate, TOGAF, ADM, BDD, DDD, AWS, Kafka, Go, Graph, SQL ,Terraform, Kubernetes, Elasticsearch, Typescript

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Tech Lead at Idexx Laboratories
📅 *Jun 2021 – Sep 2021*

Auckland, New Zealand

- Served as a key lead architect, driving critical technological decisions and strategies across various regions, emphasizing my pivotal role in shaping the company's technological landscape.
- Designed and deployed a distributed data layer, introducing a declarative client-driven API to enhance system flexibility and client interaction efficiency.
- Engineered an event-driven architecture leveraging Kafka, including the deployment and rigorous testing of a prototype in collaboration with Confluent consultants, showcasing my expertise in modern, scalable system design.
- Actively engaged in feature development, technical debt reduction, and incident management, contributing to continuous improvement in system reliability and development practices.
- Presented scientific approaches and innovative solutions across different teams to address existing challenges and develop new features, fostering a culture of continuous learning and cross-team collaboration.

Tech & Tools: Laravel, Terraform, AWS, Apollo, Go, Rust, Node, React, PHP, SQL, Kafka, Python, Kubernetes, Elasticsearch, Typescript

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Senior Fullstack Developer at ezyVet
📅 *Jul 2020 – Jun 2021*

Auckland, New Zealand

- Elevated from Senior Frontend Developer to Frontend Tech Lead within Ezyvet, taking comprehensive responsibility for all frontend applications, demonstrating rapid professional growth and trust in my leadership and technical capabilities.
- Championed the integration of best practices and cutting-edge technologies into the team's workflow, significantly enhancing project outcomes and efficiency. Actively contributed to the development and refactoring of complex features, reinforcing the team's adaptability and technical prowess.
- Orchestrated a major refactor of the frontend codebase, quintupling its modifiability, performance, and security, which substantially boosted the application's reliability and user satisfaction.
- Spearheaded the recruitment process for new talent, playing a pivotal role in interviewing, onboarding, and mentoring new hires, thereby fortifying the team's capabilities and fostering a culture of continuous learning and improvement.
- Addressed critical engineering challenges in both the frontend and platform domains, implementing solutions that dramatically optimized our deployment pipeline—cutting build and deployment times from an average of 45 minutes to just 8 minutes, greatly accelerating product iteration cycles and enhancing team productivity.

Tech & Tools: React, Typescript, AWS, Go, Laravel, Kubernetes, Terraform, PHP, Node

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Fullstack Developer at Infosys
📅 *Feb 2020 – Jul 2020*

Auckland, New Zealand

- Deployed to Vodafone to take part in the development of a new E-shop.
- Began as a frontend developer, but I rapidly expanded my role to encompass CMS and backend development, demonstrating flexibility and a broad skill set.
- Was one of the main engineers that worked on the frontend and the e-commerce backend. The work included checkout processes, cart validation, product pages, and component design, along with optimizing SEO, implementing analytics, conducting UI and end-to-end testing, and driving integration projects.

- Worked on various legacy Oracle systems and written integration and anti-corruption layers.
- Collaborated closely with a diverse range of stakeholders on a daily basis, focusing on the development of innovative concepts, and the identification and resolution of bugs and defects, ensuring continual improvement and operational excellence.

Tech & Tools: React, Flask, DynamoDB, Jenkins, AWS, BigCommerce, Java, Python, Javascript

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Frontend Engineer at Navigate Travel
📅 *Jun 2019– Feb 2020*
Auckland, New Zealand

- Spearheaded the migration of three websites from WordPress to Gatsby, integrating React, Contentful, and Node (NestJS), successfully transitioning 900 blog posts with a keen focus on SEO optimizations and schema markups.
- Enhanced the performance and SEO of existing WordPress sites, implementing advanced optimization strategies to improve search engine rankings and user engagement.
- Developed a cross-browser, responsive web application that combines dynamic and static elements, delivering an exceptional user experience on all devices.
- Managed API concurrency issues, dynamically updating product prices, names, and descriptions to ensure real-time accuracy and responsiveness.
- Contributed to refining the company's SEO strategy, leading to measurable improvements in web visibility and traffic.
- Collaborated in the UI/UX design process, creating intuitive and user-friendly interfaces that enhance customer satisfaction and engagement.
- Leveraged emerging technologies in both front-end and back-end development, significantly increasing application performance and speed.
- Implemented a polyglot persistence architecture, enhancing system efficiency and scalability to support growing data demands and diverse data types.

Tech & Tools: Gatsby, Contentful, React, Node, Sass, Graphql, Netlify, Vercel, Gitlab Pipelines, AWS, Google Cloud

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Founder, Lead Fullstack Developer at Pouyaraveshan Academy
📅 *Feb 2017– June 2019*
Tehran, Iran

- Implemented servant leadership principles from "The Servant" to empower and uplift team members, creating a collaborative and growth-oriented environment, drawing from insights in the book "Leaders Eat Last".
- Optimized SEO strategies, achieving an average website position of 8.5 and a click-through rate (CTR) of 6.5%, significantly enhancing online visibility.
- Directed a team to launch an early version of our website's Accelerated Mobile Pages (AMP), resulting in a 70% increase in traffic.
- Conducted computer science and software engineering workshops, covering a wide array of technologies and empowering participants with new skills.
- Oversaw key operations including marketing, content creation, administration, student engagement, system development, and orchestration, driving comprehensive organizational growth.
- Regularly developed, maintained, and enhanced pouyaraveshan.org, ensuring an engaging user interface and robust backend functionality.
- Implemented and fine-tuned a Learning Management System (LMS), both improving client experience and streamlining organizational processes through automation.
- Implemented an online learning system using Adobe Connect and custom built backends. I have then integrated this system with our LMS, and POS systems.

Tech & Tools: ReactJS, NodeJs, Mongo, Adobe Connect, Mysql, PHP, Golang, C#, .Net Core, Java

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Full Stack Developer at Cake Creative Digital Lab
📅 *June 2015– Nov 2016*
Kuala Lumpur, Malaysia

- Engaged in diverse web development projects, including front-end design and e-commerce, enhancing system customization and exclusivity.
- Reduced rework by 22% and cut costs by 15% by engineering a reusable utilities library.
- Achieved high user experience scores across all web development projects, ensuring an intuitive and effective user interface.
- Optimized project performance to consistently meet or exceed a 95% Google Pagespeed score.
- Conceptualized and prototyped an average of 25 new product features annually, significantly contributing to product enhancement.
- Led the development of a website that garnered the 2015 Malaysia Website Award for outstanding UI/UX and structure.
- Played a key role in the full project lifecycle, from development and maintenance to deployment, emphasizing robust and scalable solutions.

- Collaborated with the development team to ascertain user requirements, formulate use cases, prioritize tasks, and draft comprehensive documentation.
- Conducted thorough analyses of web-based systems to identify and rectify defects, bolster performance, and fortify security measures.

Tech & Tools: Wordpress, Magento, Opencart, AngularJS, Vanilla JS, PHP, C#, .Net Core, Golang

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Workshop Assistant, Python Developer at **Kidocode**   📅 *Feb 2015– May 2015*
Kuala Lumpur, Malaysia

- Completed a 3-month internship, during which I facilitated Python, NoSQL, Cloud, and Web Development workshops at various universities in Kuala Lumpur, enhancing educational outreach and technology adoption.
- Diagnosed and resolved student's coding issues during workshop sessions, ensuring smooth and effective learning experiences.
- Played a role in the development of the company's loyalty campaign platform, coding various aspects from database to frontend.
- Engaged in youth education initiatives, teaching programming fundamentals through both hands-on (plugged) and theoretical (unplugged) methods, fostering early interest in technology.

Tech & Tools: Django, Numbpy, Matplotlib, AngularJS, Mongo, Python

🎓 Education

B.S.C in Software Engineering (Dual Degree)	Staffordshire University	Jan 2012 – April 2015
B.S.C in Software Engineering (Dual Degree)	Asia Pacific University of Technology	Jan 2012 – April 2015
M.S.C in Software Engineering	Staffordshire University	Setember 2015 – Feb 2017
P.H.D in Computer Science	Auckland University of Technology	Feb 2019 – September 2024
Nano Degree in Data Architecture	Udacity	Dec 2022 – Feb 2023

✳️ Certificates

PyResearcher - Sixty Hours (Python - Mongodb - Numpy - Matplotlib - Pandas)	Pycademy	April 2015
MCPS: Microsoft Certified Professional	Microsoft	October 2015
MS: Programming in HTML5 with JavaScript and CSS3	Microsoft	October 2015

⚗️ Publications

📘 Books
- Ataei, P. [Pouya]. (2017). *The nexus methodology: A trenchant approach toward big data*. LAP LAMBERT Academic Publishing. Retrieved from https://www.amazon.com/Nexus-Methodology-Trenchant-Approach-Toward/dp/3659881392

📄 Journal Articles
- Ataei, P. [Pouya]. (2024). Cybermycelium: A reference architecture for domain-driven distributed big data systems. *Frontiers in Big Data*, 7, 1448481.

- Ataei, P. [Pouya], Regula, S., Staegemann, D., & Malgaonkar, S. (2024). Filtering useful app reviews using naive bayes—which naive bayes? *AI*, *5*(4), 2237–2259.
- Ataei, P. [Pouya], & Staegemann, D. (2023). Application of microservices patterns to big data systems. *Journal of Big Data*, *10*(1), 1–49.
- Ataei, P. [Pouya], & Litchfield, A. [Alan]. (2022). The state of big data reference architectures: A systematic literature review. *IEEE Access*.
- Rada, B. B., Ataeib, P., Khakbizc, Y., & Akbarzadehd, N. (2017). The hype of emerging technologies: Big data as a service. *Int. J. Control Theory Appl*, *9*(43), 1–18.
- Bashari Rad, B., Akbarzadeh, N., Ataei, P., & Khakbiz, Y. (2016). Security and privacy challenges in big data era. *International Journal of Control Theory and Applications*, *9*(43), 437–448.

👥 Conference Proceedings

- Staegemann, D., Ataei, P., Lautenschläger, E., Pohl, M., Haertel, C., Daase, C., … Turowski, K. (2024). An overview on testing big data applications. In *Proceedings of ninth international congress on information and communication technology*, Springer.
- Ataei, P. [Pouya], & Litchfield, A. [Alan]. (2023). Towards a domain-driven distributed reference architecture for big data systems. In *Amcis 2023*.
- Ataei, P. [P.], & Litchfield, A. [A.]. (2021, December). Neomycelia: A software reference architecturefor big data systems. In *2021 28th asia-pacific software engineering conference (apsec)* (pp. 452–462). doi:10.1109/APSEC53868.2021. 00052
- Ataei, P. [Pouya], & Litchfield, A. [Andrew]. (2020). Big data reference architectures: A systematic literature review. In *2020 31st australasian conference on information systems (acis)* (pp. 1–11). IEEE. doi:10.5130/acis2020.bf
- Rad, B. B., & Ataei, P. [Pouya]. (2017a). Evaluating major issues regarding reliability management for cloud-based applications. (Vol. 17, p. 168).
- Rad, B. B., & Ataei, P. [Pouya]. (2017b). The big data ecosystem and its environs. (Vol. 17, p. 38).

⚛️ Community Engagement

- **IEEE Computer Society**
  Academic Contributor   Jan 2021 - Present
- **Association for Information Systems (AIS)**
  Academic Contributor   May 2019 - Present

📑 Presentations Delivered

- International Conference on Control, Electronics and Computer Technology - ICCEIT 2017, India   2017
- International Conference on Control, Electronics, and Computer Technology - ICCECT 2017, Malaysia   2017
- Australasian Conference on Information Systems - ACIS, New Zealand   2019
- American Conference on Information Systems - AMCIS, USA   2020
- Asia-Pacific Software Engineering Conference - APSEC, Taiwan   2021
- Kafka and Terraform Meetup - Confluent, New Zealand   2023
- Geekle- World Global React Conference   Multiple (Latest in 2023)
- American Conference on Information Systems - AMCIS, USA   2024
- Many other conferences.