

Behkish Nassirzadeh, PhD

Researcher | Entrepreneur | AI | Blockchain | Innovator | Technology Leader

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Executive Summary

PhD in **Computer Engineering** with expertise in **AI, blockchain security, and large-scale systems**. Proven track record as a researcher and technology leader with 10+ years of impact across academia, startups, public and private sectors, and non-profits. Founder, VP, researcher, software engineer, and published scholar recognized with \$200k+ in awards. Skilled at translating advanced research into scalable platforms.

Relevant Experience

Chief Technology Officer | Founding Principal Architect *AdPrompt*
2025 – present Boise, ID

- Lead the technical vision and system architecture for an AI-native advertising automation platform, overseeing core AI pipelines, backend services, and data infrastructure.
- Built scalable AI engine architecture across the advertising lifecycle.
- Translate research-grade concepts into production-ready systems across product and engineering.

Graduate Student Researcher *University of Waterloo*
2019 – 2025 Waterloo, ON

- Built an AI-based tool chain for automated detection and repair of gas-related vulnerabilities in Ethereum contracts.
- Researched and prototyped an oracle network for verifiable counting, combining blockchain security with game-theoretic incentive design and consensus mechanisms.
- Authored 5+ peer-reviewed publications across blockchain security, AI, and distributed systems.

Vice President of IT | Director of IT *Endeavour Consulting*
2023 – 2025 Toronto, ON

- Led and directed IT strategy for a national consulting organization serving 160+ nonprofit clients.
- Oversaw cloud modernization, data security, and operational efficiency across distributed teams.
- Established governance frameworks, technology roadmaps, and KPI dashboards to strengthen compliance and data protection.

Co-Founder & CEO *Factiphi Inc. (AdTech / Blockchain)*
2022 – 2023 Kitchener, ON

- Founded a blockchain-based ad-verification startup tackling the \$80B/year online ad fraud market through a decentralized validator network.

Education

Ph.D., Computer Engineering *University of Waterloo*

2021 – 2025 Waterloo, Canada

Thesis: Secure and Scalable Blockchain Systems: From Oracle Networks to AI-driven Smart Contract Repair.

MBET (Part-time) *Conrad School of Entrepreneurship*

2024 – 2027 Waterloo, Canada

MASc., Computer Engineering *University of Waterloo*

2019 – 2021 Waterloo, Canada

Thesis: Security Analysis of DoS Vulnerabilities in Smart Contracts.

BASc., Computer Engineering *University of Waterloo*

2014 – 2019 Waterloo, Canada

Honours, Distinction.

Technical Skills

Languages: Python, Java, Solidity, C, C#, JavaScript, TypeScript, SQL

Frameworks: Node.js, .NET, AngularJS, React, Truffle, Web3.js

AI/ML: pandas, NumPy, scikit-learn, PyTorch (basic), Hugging Face, OpenAI API

Cloud/DevOps: Docker, Kubernetes, Git, CI/CD, Linux, Azure, AWS, GCP, PostgreSQL/Oracle/SQL Server

Security: Smart contract auditing, fuzzing, static/dynamic analysis, penetration testing, secure design

- Architected and launched an MVP that reduced discrepancy in ad impression verification from $\sim 20\%$ to $\sim 2\%$ in pilots.
- Secured multiple LOIs from partners and engaged with investors; participated in the University of Waterloo's Velocity incubator.
- Built business strategy including tokenomics, revenue models, and competitive positioning.

Director & Blockchain Consultant
2020 – 2022

Kshathra Technologies Inc.
Toronto, ON

- Advised startups and enterprises on blockchain integration, consensus models, and smart-contract security.
- Designed and audited decentralized application architectures; improved resilience against critical attack vectors.
- Supported clients in raising over \$500k in funding by shaping technical roadmaps and aligning product offerings with investor priorities.

Earlier Experience

Software Developer , IBI Group, Toronto	2018
Software Developer , York Region, Newmarket	2017
.NET Developer , Ontario Ministry of Education, Toronto	2017
Project Lead Developer (Part-time) , KorpiCo, Toronto	2016–2017
Software Developer , The Nielsen Company, Markham	2016
InfoSec Coordinator , CIBC, Toronto	2015
Web & Sys Admin (Part-time) , Encubate, Toronto	2015
Infrastructure Specialist , T4G Limited, Toronto	2015

Publications

B. Nassirzadeh, A. Hasan, V. Ganesh. <i>GasGuard: An LLM-Based Automated Gas Vulnerability Detection and Mitigation System</i> . MARBLE 2025 (forthcoming), Springer	2025
B. Nassirzadeh, A. Heinle, S. Leonardos, A. Hasan, V. Ganesh. <i>CountChain: A Decentralized Oracle Network for Counting Systems</i> . IEEE Int'l Conf. on Blockchain, pp. 324–331	2024
B. Nassirzadeh, A. Heinle, S. Leonardos, A. Hasan, V. Ganesh. <i>AdChain: Decentralized Header Bidding</i> . MARBLE 2024, pp. 265–283, Springer	2024
B. Nassirzadeh, H. Sun, S. Banescu, V. Ganesh. <i>GasGauge: Security Analysis of Smart Contract Out-of-Gas Vulnerabilities</i> . MARBLE 2022, pp. 143–167, Springer	2022
B. Nassirzadeh. <i>Secure and Scalable Blockchain Systems: From Oracle Networks to AI-driven Smart Contract Repair</i> . Ph.D. Thesis, University of Waterloo	2025
B. Nassirzadeh. <i>Security Analysis Methods for Detection and Repair of DoS Vulnerabilities in Smart Contracts</i> . M.A.Sc. Thesis, University of Waterloo	2021
B. Nassirzadeh, R. Xi, K. Pattabiraman, V. Ganesh. <i>Security of Blockchain Technologies</i> . Foundations and Trends in Privacy and Security, NOW Publishers (Book Chapter)	2025

Core Competencies (ATS)

CTO/Technical Strategy
 Leadership & Mentorship
 Roadmapping Stakeholder Mgmt
 LLMs for Security AI/ML
 Fuzzing Static Analysis
 Formal Methods
 Blockchain Protocols Ethereum
 Consensus Oracles
 Smart Contract Audits
 Python Java C#
 TypeScript/JS SQL Solidity
 C Node.js .NET
 AngularJS React Truffle
 MetaMask
 Docker Kubernetes Git
 CI/CD Linux Azure AWS
 GCP

Awards

Entrepreneurial PhD	2024
Fellowship	
Sharon & David Johnston Award	2024
Ripple Graduate Fellowship	2023
UBRI Innovator Award	2020
President's Scholarship	2014