# Mohamed Yousif

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## Summary

Innovative and resilient technology leader with a comprehensive background in founding and scaling tech ventures, from startups like Solus to impactful projects like Sharik and Tuti Tech Investment. Demonstrates a profound ability to navigate the startup ecosystem, leveraging technical expertise in blockchain, fintech, and software development to address complex challenges. Proven track record of delivering scalable, secure, and user-focused digital solutions, driving technological innovation, and building high-performing teams in dynamic environments.

## Professional Experience

### Co-Founder & CTO | Tuti Tech Investment

2021-Present

- **Leadership and Innovation**: Co-founded a cloud-based payment platform, leading the technical vision and overseeing the development of a blockchain-based payment system. Achieved a 300% increase in transaction throughput and a 40% increase in user adoption within six months.
- **Strategic Technical Implementation**: Implemented a streaming data architecture using AWS services (Lambda, Kinesis, RDS) to handle high-volume, real-time financial transactions, significantly enhancing platform scalability and reliability.
- **Team Building and Management**: Grew the technical team from 1 to 15, fostering a culture of innovation and establishing robust development processes that reduced time to market by two quarters.

### Technical Advisor | Sharik

2021-Present

- **Technical Strategy and Solution Design**: Provided strategic technical guidance for a platform aiming to improve financial inclusivity, designing a mobile banking app and a digital ledger software using AWS Lambda, DynamoDB, and Android's Jetpack Compose.

- **Partnership and Funding Advocacy**: Played a pivotal role in securing funding and establishing partnerships with international organizations, leveraging technical solutions to support Sudanese immigrants and IDPs.

## Co-Founder & CTO | Solus Ltd

2019-2021

- **Microservices Architecture Implementation**: Led the architectural shift to microservices, enhancing system scalability and resilience. Employed gRPC for efficient inter-service communication, marking a significant modernization from traditional enterprise integration patterns. This strategic move facilitated a more agile development process, allowing for rapid iteration and deployment of new features.
- **Enterprise Integration Modernization**: Pioneered the adoption of modern architectural patterns, moving away from monolithic structures to a more flexible, service-oriented architecture. Implemented best practices from the "Enterprise Integration Patterns" book, utilizing technologies like Apache Camel for message routing and mediation, thereby streamlining data processing and integration workflows.
- **Payment Standards and Compliance Leadership**: Spearheaded initiatives to standardize payment processing protocols, ensuring adherence to PCI DSS, 3DS, and other emerging security standards within the fintech space. This effort not only elevated Solus's compliance posture but also positioned the company as a leader in payment security and standardization.
- **Innovative Payment Solutions Development**: Developed a suite of payment solutions that catered to various market needs, including an offline-first payment system leveraging Ethereum's blockchain for secure, decentralized transactions. Integrated EMV chip card technology with POS systems to enable encrypted offline transactions, enhancing the accessibility and reliability of financial services in regions with limited internet connectivity.
- **Strategic Growth and Community Impact**: Managed a comprehensive strategy that led to a successful collaboration with UNDP, focusing on empowering microfinance institutions and COOPs with digital tools for financial inclusion. This collaboration was instrumental in advancing Solus's mission to provide innovative, secure financial services to underserved communities.

## Software Engineer | Ashrafcom

2017-2019

- **Comprehensive System Overhaul**: Played a pivotal role in transforming Ashrafcom's technology infrastructure, addressing a broad spectrum of systemic issues from firmware bugs in POS systems to enhancing national banking encryption protocols. This multifaceted project restored operational functionality to over 10,000 POS systems, preventing potential losses exceeding $500,000 and significantly enhancing transaction security across the board.

- **Infrastructure and Security Optimization**: Spearheaded the deployment of a Django-based payment system, navigating complex infrastructure challenges including setting up nginx for improved web server performance, integrating Amazon S3 for scalable static file storage, and employing gunicorn as a WSGI HTTP server. Additionally, led efforts to establish a VPN connection with the Central Bank of Sudan, ensuring reliable and secure transaction processing.
- **Regulatory Compliance and Security**: Actively contributed to the mobile app's PCI DSS certification process, coordinating across teams to rectify backend security issues and acting as a liaison with the Central Bank of Sudan's security team. This involvement was crucial in achieving app certification and licensing, adhering to stringent security standards.
- **Firmware Development and POS System Revitalization**: Addressed critical firmware issues in the POS systems, involving detailed work with C language and SDKs without proper documentation. This initiative not only revived thousands of non-operational POS units but also facilitated a project to explore alternative POS providers, aiming to modernize the POS fleet and avoid vendor lock-in.
- **Leadership and Strategic Contributions**: Beyond technical contributions, played a strategic role in reviewing and advising on software projects with government contracts, demonstrating a blend of technical leadership and strategic insight. Managed vendor relations and was instrumental in drafting technical proposals and specifications, contributing to a broader organizational strategy.

### Founder | noebs

2018-Present

- **Open Source Fintech Platform**: Developed noebs, an open-source payment gateway that became a cornerstone fintech solution in Sudan, integrating with national and international financial systems. This initiative demonstrated a commitment to financial inclusivity and innovation.

### Lead Developer & Researcher | Geo and Innovation (G&I) / University of Khartoum

2015-2018

- **Research and Development**: Led a groundbreaking project in satellite imagery analysis using machine learning, significantly improving data processing efficiency and accuracy. This work contributed directly to the development of G&I's satellite imagery processing business.
- **Entrepreneurial Ventures**: Co-founded EEBAx and engaged in a remittance startup, gaining invaluable experience in startup dynamics, team coordination, and market strategy.

## Skills & Technologies

- **Blockchain & Cryptography**: Proficient in Ethereum, smart contracts, Solidity, and implementing advanced cryptographic techniques like Zero-Knowledge Proofs to enhance transaction security and privacy.
- **Cloud Computing & Big Data**: Extensive experience with AWS services (Lambda, EC2, RDS, S3, DynamoDB, Kinesis) for building scalable and resilient cloud architectures. Skilled in employing Docker and Kubernetes for containerization and orchestration, facilitating efficient deployment and management of microservices.
- **Machine Learning & Geospatial Analysis**: Demonstrated expertise in applying TensorFlow and PyTorch for machine learning projects, including satellite imagery processing and analysis, to derive actionable insights from geospatial data.
- **Web & Mobile Development**: Comprehensive knowledge in developing responsive web and mobile applications using HTML, CSS, JavaScript, and modern frameworks/libraries like Django, React, Angular, and Jetpack Compose.
- **Microservices Architecture & gRPC**: Led the adoption of microservices architecture to enhance system scalability and agility, utilizing gRPC for efficient, low-latency service-to-service communication.
- **Enterprise Integration & Payment Compliance**: Innovated enterprise integration using modern patterns and technologies, including Apache Camel for message routing. Spearheaded compliance initiatives, ensuring adherence to financial standards such as PCI DSS and 3DS, and keeping abreast of new regulations to maintain security and trust.
- **Leadership & Strategic Planning**: Proven leadership in team building, startup strategy formulation, product management, and stakeholder engagement. Demonstrated ability to guide teams through complex project landscapes, delivering solutions that drive growth and meet strategic business objectives.

## Achievements

- Successfully led multiple tech startups from concept to scaling, demonstrating exceptional leadership and technical acumen.
- Spearheaded the development and commercialization of innovative technologies, resulting in significant business growth, user adoption, and community impact.
- Established and nurtured strategic partnerships and collaborations, securing essential funding and resources for tech projects focused on social and economic development.

## Education

Bachelor of Engineering, University of Khartoum

- Graduated with honors; awarded for the best graduation project, showcasing early innovation and technical prowess.