Aadharsh Kannan

Head of Software Engineering and Applied Science, Office of the Chief Economist, Microsoft

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Engineering and Applied Science Leader with over a decade of experience in large-scale, data-intensive software systems development and machine learning. I have demonstrated expertise in driving business growth and revenue yield, developing customer data & insights platforms, segmentation & personalization, and other marketing technology solutions. I have a proven record of accomplishment in building organizations and delivering technology solutions from the ground up and have been a key player in developing Microsoft's digital currency strategy and related research incubations.

EXPERIENCE

Aug 2019 - Present

Microsoft - Head of Software Engineering and Applied Science

Office of the Chief Economist

As a member of the Monetization and Business Planning organization, I bring extensive experience in delivering innovative technology solutions that drive revenue growth and optimize channel monetization for Microsoft. In my role, I have taken a leadership position in developing customer data & insights platforms, segmentation & personalization strategies, and other in-house finance and marketing technology solutions that have significantly improved revenue yield. Till 2023, I successfully led a cross-functional team of software engineers, data & applied scientists and economists in developing and implementing incubation projects that generated over a quarter billion dollars in Annual Recurring Revenue for Microsoft. I also played a key role in devising Microsoft's digital currency strategy and conducting research incubations utilizing permissioned and permissionless distributed ledger technologies. With a strong focus on strategic planning and trade-off management, I have consistently driven the research agenda and technology transfer initiatives forward. Leveraging my expertise in data & economics, I have collaborated with various teams within Microsoft to incubate ML-based pricing products and solve complex business problems. Proven record of accomplishment in building organizations/teams and solutions/products from zero to one.

Sep 2018 - Aug 2019

Amazon - Senior Data Scientist

Econ Tech

Worked in Econ Tech, an incubator that used Applied Science and Machine Learning to understand and influence the complex economy of Amazon's consumer business. Involved in solutions for private label pricing and reservation-price-based mechanism for sponsored content on search at Amazon scale. Worked with leaderless service architecture in a fast-paced continuous integration and continuous deployment setting. Put economics into action in low-latency active learning services (reinforcement learning algorithms).

Jan 2015 - Sep 2018

Microsoft - Senior Data and Applied Scientist

Office of the Chief Economist

Attracted talent and built the Data Science organization from the ground up as the team's first Data and Applied Scientist. Developed pricing solutions that powered Microsoft Azure, including international pricing, batch pricing, optimal data center location, and more. Worked on deployment allocations that factor in price as a variable. Developed and scaled machine learning algorithms for big data platforms.

Aug 2013 - Jan 2015

Microsoft - Software Engineer 2

Office 365 - Share Point Online

Delivered features for SharePoint Online as part of Office Extensibility. Worked on micro-services architecture to provide JSON-based APIs that scale with tenant data. Created innovative service testing architecture, including production playback and log text mining to identify code regressions. Built Big Data Text Mining models to improve the quality of service for Office 365 customers.

Jun 2011 - Aug 2013

Microsoft - Software Engineer

Microsoft India R&D Pvt. Ltd.

Part of the CIOs Innovations Team delivering the next digital experience for Microsoft, including features for our line of business applications and consumer products. Improved bug traceability using robust text mining techniques on build logs for Biz Talks transition to the cloud.

May 2010 - Jul 2010

Microsoft - Software Engineering Intern

Entertainment and Devices Division (Xbox and Kinect)

Entertainment and Devices Division (Xbox and Kinect). Contributed to have a great user experience in the self-help sections of the first version of Kinect (Natal).

Apr 2009 - June 2011

MurGanT

Co-Founder, Chief Architect and Developer

Worked on a Content Management Solution that enabled Desktop Publishing of Content from various Departments of Institutions to their Web Site in a modular fashion.

EDUCATION

Purdue University
Master of Science, Economics

Econometrics & Advanced Theory Concentration.

University of Washington
Master of Science, Computer Science

Distributed Systems, Machine Learning and Big Data Systems

Amrita Vishwa Vidyapeetham (Amrita University)
Bachelor of Technology in Computer Science and Engineering

Engineer's Degree, Computer Science, and Engineering.

PATENTS AND PUBLICATIONS

April 2022

Differentially Private Estimation of Heterogeneous Causal Effects
CLeaR (Causal Learning and Reasoning) 2022

Fengshi Niu, Harsha Nori, Brian Quistorff, Rich Caruana, Donald Ngwe, Aadharsh Kannan

May 2021

Characterizing the Usage Intensity of Public Cloud
ACM Transactions on Economics and Computation

Aadharsh Kannan, Jacob LaRiviere, and R. Preston McAfee

Nov 25, 2017

Scale Effects in Web Search
WINE 2017: Web and Internet Economics

Di He, Aadharsh Kannan, Tie-Yan Liu, R. Preston McAfee, Tao Qin, Justin M. Rao

Feb 21, 2017

Usage Patterns and the Economics of the Public Cloud
WWW 2017: World Wide Web Conference.

Aadharsh Kannan, Cinar Kilcioglu, R. Preston McAfee, Justin M. Rao

Jun 22, 2017

Drowsiness Onset Detection (Neural Networks)
Patent: US20170172520

Aadharsh Kannan, Govind Ramaswamy, Avinash Gujjar, Srinivas Bhaskar

Jan 22, 2016

Text Classification Using Bi-directional Similarity Metric
Patent: WO 2016118792 A1, US 20160217126 A1

Aadharsh Kannan,Kristopher Wayne Langohr, Naganandhini Kohareswaran, Labra Juan Balmori

May 2010

Classification of Machine Fault using Neural Networks
National Conference on Control Systems and Engineering

SKILLS AND AREAS OF FOCUS

Software Systems Architect & Developer

Hadoop, Spark, Databricks, COSMOS, C#, Java Script, Python, Scala, R, SQL, and STAN

Expertise in developing cloud-native, microservices solutions that are scalable and meet the needs of tenants of all sizes. Adept at building robust back-end systems and incorporating predictive analytics solutions, leveraging a deep understanding of machine learning algorithms and the ability to train and deploy them at scale. Proven success in developing big data platforms and implementing machine learning operations in start-up-like environments. Demonstrated experience in leading cross-functional teams to deliver innovative solutions and drive technology transformation. Adept at balancing technical and business considerations, with a strong track record of strategic planning and trade-off management for research and technology transfer initiatives.

Machine Learning Practitioner & Applied Scientist

Involved in definition, discovery, development, and deployment of ML models

Causal Inference, Bayesian Structural Time-Series, Parametric Models, Time Series Forecasting, Agent Simulation, Reinforcement Learning, and Large Scale Text Classification & Mining. Developed and deployed Deep Neural Network-models.

Blockchain and Web3 Technologist

Developed interoperability incubation prototypes using Solana, Ethereum (including a few L2s), and permissioned networks.

Expertise in digital currency on blockchain technologies. With a focus on interoperability, developed prototypes for digital currencies and stablecoins that function across a variety of blockchains, including Solana, Ethereum, and privacy-preserving permissioned blockchains. Demonstrated a strong ability to research, experiment, and develop functional prototypes that could be used in real-world settings, including for Central Bank Digital Currencies (CBDCs). Technical expertise and hands-on experience in developing cutting-edge blockchain solutions to drive the growth and success of your organization.