MAHESH BABU MARIAPPAN

B.Tech, MS, PhD Candidate Computer Science **(University of Texas, USA)**

Current Position:
Lead Data Scientist at Netmeds Vitalic

Previously:
Senior Data Scientist Manager at GAVS / Ducen IT

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USA ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING DATA SCIENTIST FOR OVER 13 YEARS

USPTO-CERTIFIED INTERNATIONAL INVENTOR OF GRANTED PATENT

I am a **rare combination of an International AI Machine Learning expert, futuristic computer technologist, patent inventor and a former startup business entrepreneur** with passion for innovative new product development. I am a **Computer Science PhD** researcher from **USA** with advanced specialization in Artificial Intelligence (AI), Deep Learning (DL), Machine Learning (**ML**), Natural Language Processing (**NLP**) and Human Computer Interaction (**HCI**).

As a **Former Founder and Managing Director of product startup Companies**, I have taken multiple new products along the following cycle. Ideation – Prototyping – Development - IP Building - GTM Launch - A/B Testing - Customer Acquisition - Viral Growth Hacking - Customer Engagement - New Feature Development - Iteration.

Key Strengths:
1) I have implemented various **Enterprise level AI, Machine Learning, Data Science, Big Data and Analytics** solutions. I am a **natural product person** with proven ability to marry innovative technologies with macro changes to build potentially disruptive products which customers love to use.
2) I have **hands-on technical development skills** on a broad spectrum of ML, AI and **deep learning** technologies.
3) I **take data-driven decisions** and I rely on user engagement data to constantly look for ways to enhance the customer experience with obsession for new feature introduction.
4) I **address audiences** all over the world to drive product adoption.
5) I have been in the **high tech innovation industry for over 13 years with a proven track record of GRANTED patented inventions and research publications**.

What I am interested in?
1) I am interested in an **interesting senior level opportunity** in an organization, where I can leverage my end-to-end skills to the fullest potential.
2) I would be a **great fit for any of the following roles** depending on the organization. Machine Learning and AI Data Scientist, Director/AVP/VP of Analytics and Data Science, Head of Data Science Innovation Lab, Cognitive Head, AI and NLP Research Scientist, Deep Learning Expert, Analytics Head, Chief Technical Architect, Head of New Product Development.

FOREIGN FULL-TIME ACADEMICS
2012 - PhD Candidate Computer Science from University of Texas, **USA (105 credits in Good Standing CGPA: 3.642/4.0)**
2009 – Integrated Masters Degree (MS) in Computer Science from University of Texas, **USA**
2007 - B.Tech in Information Technology from **MIT (CGPA: 8.1/10)** **Overall Best Project Award across all streams**
2003 - 12th Std: SBOA Matric and Higher Secondary School **(93%)** **Chemistry – 100%, Physics – 99.5%, Mathematics – 99.5%**
2001 - 10th Std: SBOA School and Junior College **(CBSE 90%).** **Science – 93%, Mathematics – 92%**
Patents: 10+; Peer Reviewed Paper Publications: 8

WORK EXPERIENCE
Organization: Netmeds Vitalic **Designation:** Lead Data Scientist (Delivery Head) **Duration:** 2019 - Present **Responsibilities:** As both an individual contributor as well the Head of Data Science team, I built time series forecasting models for revenue and demand forecasting, product recommendation engines, and prediction models for turn-around times for our courier management systems, and took the projects to enterprise-level deployment at scale.
Organization: GAVS Technologies and Ducen IT **Designation:** Senior Data Scientist (Manager) **Duration:** 2018 - 2019 **Responsibilities:** My mandate is to incorporate Artificial Intelligence (AI) and Deep Learning (ML) into the Company's products. I also spearhead AI innovation initiatives. As part of my job, I live and breathe AI and Deep Learning on a daily basis. I read research papers, write programs, maintain datasets, build deep learning models, train them, test them, prepare performance reports, refine models, deploy PoCs, and iterate.
Organization: MVPL Stumper (Sports) **Designation:** Vice-President of New Product Development (AI/IoT)

Duration: 2016 - 2017
Responsibilities: MVPL is a 20+ years old manufacturing organization owned by Mr.Nagarajan. It has multiple brands. Stumper brand for sports. TT brand for food and spices manufacturing. I was serving as the VP NPD for Stumper. I invented the Stumper Smart Bat, and I built an entire product line by writing bluetooth low-energy IoT android applications which read IMU motion sensor data (accelerometer, gyroscope, magnetometer) from cricket bats and transmitted them to users' smart phones. A User is applauded with his favorite song using a **machine learning based recommendation engine**, whenever he hits top speed among his friends' circle. I generated and **filed IP/Patents for MVPL** Stumper at the US and Indian Patent Offices for a spectrum of innovative connected-sports products.
Achievements: As a key person, I initiated the process of transforming an old-school, brick-and-mortar manufacturing Company into a new age wearable sports technology brand.

Organization: PINCOTV INTERNET PVT LTD
https://www.youtube.com/watch?v=UJY9np9g2Z0
Designation: Founder CEO / Chief Innovation Officer (AI/ML)
Duration: 2013 - 2016
Responsibilities: PinCodeTV can be thought of as the Amazon Seller Services for offline retailers. My key responsibilities as the CEO was to ideate, prototype, develop, and take to market PinCodeTV hyperlocal marketplace for sellers. To further acquire early users, conduct A/B tests, build new features to engage customers in order to drive transactions. To directly manage and lead a dynamic startup team and key stakeholders of the firm (approx. 30 people). To further employ **Artificial Intelligence and Machine Learning** for building tools for retail seller services.
Achievements: I used agile project development and project management methodologies to successfully build, test, deliver, deploy and maintain over a hundred iterations. Within a few months of launch, I growth hacked and took the platform viral around March 2015. I then successfully solved key challenges relating to online-offline dichotomy between online user engagement and in-store walk-in transactions by constantly studying customers and merchants using the platform in real-time, and subsequently conceived, designed and deployed PinCodeTV's unique offline transactions model and patented token-exchange algorithms. This resulted in triple-digit growth in gross transaction volume for the Company.
Conceived, designed and developed multiple tools with high impact potential. Conducted campus recruitment drives at various Universities. Served as an Invited Speaker, Thought Leader and Chief Guest of Honor at various avenues for research and entrepreneurship.

Organization: ERIC JOHNSON RESEARCH LABORATORY, RICHARDSON, TEXAS (USA)
Designation: PhD Researcher
Duration: 2007 - 2013
Responsibilities: To conduct original research in the domains of Artificial Intelligence (AI), Machine Learning (ML), Natural Language Processing (NLP),

Human Computer Interaction (HCI).
Achievements: Inventor Recognition Awards. Vice-President of Technology for Entrepreneurship Organization. Peer-reviewed paper publications.

Organization: GOVERNMENT OF INDIA
TIFAC (TECHNOLOGY INFORMATION FORECASTING ASSESSMENT COUNCIL, DST)
www.tifac.org.in
Designation: AI and Machine Learning Research Intern
Duration: 2006 - 2007
Responsibilities:
(a) To research, design and develop algorithms for machine learning driven context-aware and ambient-intelligent smart homes using IoT sensors, specifically RFID, for TIFAC-CORE on pervasive computing. To further explore applications of IoT for pervasive computing applications.
(b) To research and build a hypermedia machine learning application for education for the Simputer platform.
Achievements: Successfully designed and implemented a location prediction algorithm using Markovian techniques, modeled users' behavior using Bayesian Belief Networks, and used fuzzy logic for realizing time awareness in a smart home project. Selection and publication in IEEE International Conference. Overall Best Project Award. Oral paper presentation in USA at IEEE PDCS 2006.
Successfully designed and implemented collaborative learning solutions using Simputer platform and tools. Selection and publication in International Conference at IEEE ICIA 2006.

STARTUP ENTREPRENEURSHIP EXPERIENCE

PINCOTV INTERNET PVT LTD
CIN: U72200KA2014PTC076504
Designation: Founder CEO / Chief Innovation Officer

PinCodeTV was like Amazon Seller Services for offline retailers. It was a hyperlocal commerce transactions marketplace which organically, automatically builds a social network, on the fly, which connects local shoppers with neighborhood retail stores through innovative mechanisms.
https://www.youtube.com/watch?v=UJY9np9g2Z0

UNIQUE SKILLSET IN THE MARKET

Artificial Intelligence AI, Deep Learning, Machine Learning, Data Science, Tensor Flow, Python, Scikit learn, Pandas, Numpy, Neural Networks, Data Analytics, Regression, Classification, Clustering, Natural Language Processing NLP, Data Mining, CNN, RNN, LSTM, NLTK, Word2Vec, Internet of Things IoT, Big Data, Hadoop, Cloud Services, AWS, Android Development, Human Computer Interaction HCI, Computer Vision, Product Management, Program Management, Product strategy, Product road map, User-stories, Use-cases, Wireframing, Requirements Analysis, Customer presentations, Data Structures, Algorithms,

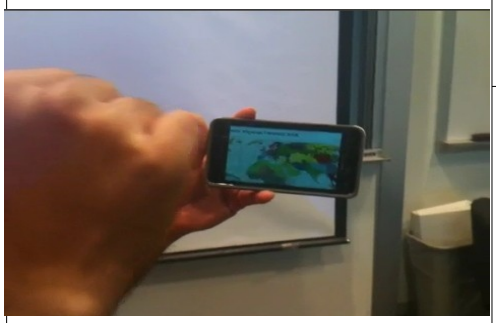
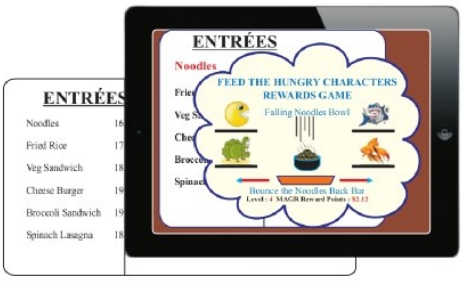
Unix, Shell Scripting, C, C++, Java, Linux, SQL, Patents, Research, Technical Writing, Academia, Public Speaking.

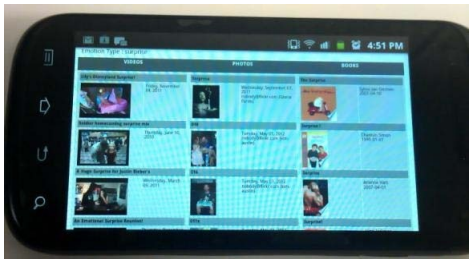
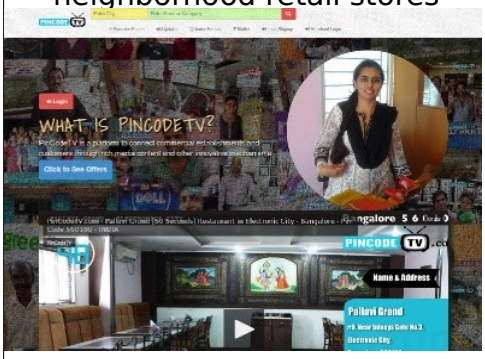
PRIOR INDUSTRY DOMAIN KNOWLEDGE

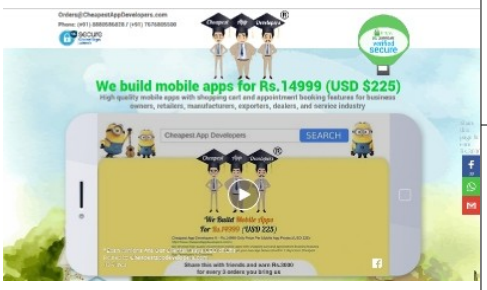
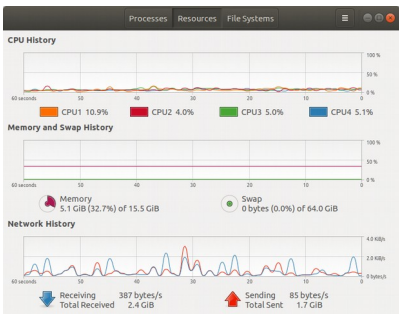
Ecommerce, Health Care, Fintech, Payment Wallets, Education and Learning, Consumer Electronics, Automotive, Cloud Services, IT Infrastructure, Retail, Marketing and Sales, Smart Homes, Telecommunications and Mobile, Connected Sports.

12+ Years in High Tech Innovations Since 2006

Year	Illustration	Invention Areas, Description and Validation
2006	**Smart Homes Using IoT and RFID** 	**AREAS** AI, Machine Learning, Ubiquitous Computing, IoT, Wearable Technologies, Ambient Intelligence. **VALIDATION** **1)** "On the short-term feasibility of using RFID in realizing ambient-intelligence in Indian homes", **In Proc. 18th Intl' Conf** on Parallel and Distributed Computing Systems (PDCS-2006), pg 376-380, Dallas, TX, USA **2) Best Project** Award
2007	**Pervasive Learning Environments** 	**AREAS** AI, Machine Learning, Pervasive Learning, eLearning. **VALIDATION** "Collaborative eLearning For Remote Education: An Approach For Realizing Pervasive Learning Environments", **In Proc. 2nd Intl' Conf** on Information and Automation (ICIA-2006), pg 274-278, Colombo, SriLanka
2008	**ADHD Detection in Children Using NLP**	**AREAS** Natural Language Processing, Machine Learning, Computational Linguistics, Diagnosis.

		VALIDATION I developed a system that applies natural language processing on oral and written responses to diagnose children with ADHD. This system was **evaluated for trials**.
2009	**2ndVision–Advanced Driver Assistance Systems** 	**AREAS** Automobile, ADAS, AI, Computer Vision, Machine Learning, Pattern Recognition, Navigation Systems. This invention is about analyzing in real-time, camera feeds captured while a vehicle is in motion, with the purpose of detecting objects of interest and alerting the driver. **VALIDATION** **UTD USA Inventor Recognition Award**
2010	**OnCue – Touchless User Interface Control System** 	**AREAS** AI, Computer Vision, Machine Learning, Gesture Recognition, Pattern Recognition, User Interface, Control Systems. This invention allows users to control their computing devices (mobile, standalone, handheld, etc) using just the bare hands without using a motion controller, remote control or a touchscreen **VALIDATION** **UTD USA Inventor Recognition Award**
2011	**MAGR – Menucard Gaming For Restaurants** 	**AREAS** Intelligent Systems, Machine Learning, Interactive Gaming, Infotainment Systems, Computer Vision, Pattern Recognition, Restaurants This invention is about interactive gaming and infotainment on restaurant menu cards. **VALIDATION** **India Patent 730/CHE/2013** **US Patent GRANT US13/771,229** **https://patents.google.com/patent/US20130222367A1**

2012	**FaceFetch Content Recommendation System** 	**AREAS** AI, Machine Learning, Emotion Recognition, Content Recommendation, Computer Vision, Pattern Recognition, Cloud Services. **VALIDATION** "FaceFetch: A User Emotion Driven Multimedia Content Recommendation System Based on Facial Expression Recognition," **In Proc 2012 IEEE Intl Sym** on Multimedia, ISM 2012.
2013	**PinCodeTV –** Hyperlocal eCommerce marketplace that connects local shoppers with neighborhood retail stores  	**AREAS** Hyperlocal transactions platform, eCommerce, Internet, coupons, mobile recharge, payment wallet. **VALIDATION** **70000 phone verified users** **Virality** ~10000 signups in a single day https://www.youtube.com/watch?v=UJY9np9g2Z0
2014	 **Patent: 4535/CHE/2014**	**AREAS** AI, Economics, Analytics, Cash Monitoring, Finance, Fintech, Token Exchange Processes, Local Market **VALIDATION** **Patent: 4535/CHE/2014** "System, Methods And Apparatus To Monitor Local Market Physical Consumer Engagement And Cash-Based Transaction Activity Using Information Communication Technology Hardware And Token Exchange Processes"
2015	**Patent: 2379/CHE/2015**	**AREAS** Commerce, Accessibility, Offline Operating System

	 PATENT OFFICE INTELLECTUAL PROPERTY BUILDING G.S.T. Road, Guindy, Chennai-600032 Tel No. (091)(044) 22502081-84 Fax No. 044 22502066 E-mail : Chennai-patent@nic.in Web Site : www.ipindia.gov.in GOVERNMENT OF INDIA INTELLECTUAL PROPERTY INDIA CHALLAN : TR-5 DOCKET NO:14893 Date/Time : 11/05/2015 Agent Number: To, MAHESH BABU MARIAPPAN 8/1P, SPAN CENTER, DIAMOND STORM OFFICE, SONY BUILDING, NEAR HOSA ROAD JUNCTION, HOSUR MAIN ROAD, BANGALORE - 560100 mahesh.m@pincodetv.com Sr. No. / CBR No. / Reference Number /Application Type / Application Number / Title/Remarks / Amount Paid 1 / 9167 / ORDINARY APPLICATION / 2379/CHE/2015 / SHOPERATING SYSTEM AN OFFLINE OPERATING SYSTEM FOR END-TO-END LOCAL MARKET SHOPPING EXPERIENCE WITHO / 1760 2 / E-101/2555/2015-CHE / 2379/CHE/2015 / Correspondence / 0 3 / E-2/1406/2015-CHE / 2379/CHE/2015 / Form2 / 0 Total : 1760 Received a sum of Rs. 1760 (Rupees One Thousand Seven Hundred & Sixty only) through Payment Mode: Draft / Bank Name: IDBI Bank / Cheque/Draft Number: 001002 / Cheque/Draft Date: 07/05/2015 / Amount in Rs: 1760 Note: This is electronically generated receipt hence no signature required.	**VALIDATION** **Patent: 2379/CHE/2015** "SHOPerating System: An Offline Operating System For End-To-End Local Market Shopping Experience Without Requiring End-Users To Have Computer and Internet Data Access"
2016	 	**AREAS** AI, Mobile Applications, Data driven. Revolutionizing mobile applications development using AI and data-driven approaches. **Vision**: Affordable mobile apps for every business on the planet.
2017	**Stumper Plus Smart Bat** 	**AREAS** Internet of Things (IoT), Connected Sports, Android, AI. **Revolutionizing sports.** At MVPL Stumper Sports, as an individual contributor I built an entire product line by writing bluetooth IoT android applications which read IMU motion sensor data (accelerometer, gyroscope, magnetometer) from cricket bats and transmitted them to users' smart phones. A User is applauded with his favorite song using a machine learning recommendation engine whenever he hits top speed among his friends' circle. **VALIDATION** **Patent: US15/795,250** "Systems and Methods for Cricket/Baseball Game Scoring and Umpiring"
2018	 **System Resource Utilization Forecasting**	**AREAS** Tensorflow, AI, Deep Learning, RNNs, LSTMs I built advanced deep learning models to forecast system resource utilization for large MNC clients. My area of worked revolved around simultaneous multiple time series forecasting using Tensorflow.

2019	**Product Recommendation** **Courier Turn-around Time Prediction** 	**AREAS** ML, AI, Facebook Prophet, Tensorflow Time Series, Scikit Learn As both an individual contributor as well the Head of Data Science team, I built time series forecasting models for revenue and demand forecasting, product recommendation engines, and prediction models for turn-around times for our courier management systems.

PATENTS

[1] **STATUS: GRANTED.** Mahesh Babu Mariappan, "Overlaid virtual playground and overlaid virtual information delivery platform for restaurants, catering businesses and other businesses using menu cards, pizza boxes, salt and pepper shakers, and other objects," **US 9928651 B2**, February 2012.
[2] Mahesh Babu Mariappan, "Food Game Toys," (***CIP***) **US15/412017 and IN 201741032570**, January 2016.
[3] Mahesh Babu Mariappan, Nagarajan Soodammani, "Systems and Methods for Cricket/Baseball Game Scoring and Umpiring," **US15/795250**, October 2016.
[4] Mahesh Babu Mariappan, "System, Methods And Apparatus To Monitor Local Market Physical Consumer Engagement And Cash-Based Transaction Activity Using Information Communication Technology Hardware And Token Exchange Processes," **IN 4535/CHE/2014**, September 2014.
[5] Mahesh Babu Mariappan, "SHOPerating System: An Offline Operating System For End-To-End Local Market Shopping Experience Without Requiring End-Users To Have Computer and Internet Data Access," **IN 2379/CHE/2015**, May 2015.

PEER-REVIEWED CONFERENCE AND JOURNAL PUBLICATIONS

[1] M. B. Mariappan, M. H. Suk, B. Prabhakaran, "FaceFetch: A User Emotion Driven Multimedia Content Recommendation System Based on Facial Expression Recognition," Proceedings of 2012 IEEE International Symposium on Multimedia, ISM 2012.
[2] M. B. Mariappan, M. H. Suk, B. Prabhakaran, "Facial Expression Recognition Using Dual-Layer Hierarchical SVM Ensemble Classification," Proceedings of 2012 IEEE International Symposium on Multimedia, ISM 2012.
[3] M. B. Mariappan, X. Guo, B. Prabhakaran, "PicoLife: A Computer-Vision Based Gesture Recognition and 3D Gaming System for Android Mobile Devices," Proceedings of 2011 IEEE International Symposium on Multimedia, ISM 2011.
[4] M. B. Mariappan, M. S. A. Sailappan, M. Chidambaram, R. V. Uthariaraj, "On the Short-Term Feasibility of Using RFIDs in Realizing Ambient Intelligence in Indian Homes," In Proceedings of the IEEE International Conference on Parallel and

Distributed Computing and Systems, PDCS 2006.
[5] M. S. A. Sailappan, M. B. Mariappan, M. Chidambaram, R. V. Uthariaraj, R. Shriram, “Improving Prediction Accuracy in Context-Sensitive Smart Homes Using K-Markov Model,” International Journal of Soft Computing, vol. 2, no. 2, April 2007, pp. 273-278.
[6] M. Chidambaram, M. S. A. Sailappan, M. B. Mariappan, “Collaborative Learning Environments,” Proceedings of the IEEE International Conference on Information and Automation, ICIA 2006.
[7] R. V. Uthariaraj, M. B. Mariappan, "Graduate Courses in Embedded and Real-Time Systems", IEEE Pervasive Computing vol. 6, no. 2, Nov. 2006, pp. 101-104.
[8] M. Chidambaram, M. S. A. Sailappan, M. B. Mariappan, R. V. Uthariaraj, R. Shriram, “Resolving Users' Behavior Modeling Ambiguities in Fuzzy-Timed Smart Homes Using Only RFIDs,” IJCNS International Journal of Computer Science and Network Security, vol. 6, no. 11, Nov. 2006, pp. 179-184.

REFERENCES

NAME	OCCUPATION	NATURE & DURATION OF ACQUAINTANCE
Dr. Rhymend Uthariaraj	**Head (ANNA UNIV)** rhymend@annauniv.edu (+91) 9444150081	Supervisor (Known since 2003)
Dr. Shriram	**Scientist (TIFAC, Govt. of India)** shrionsong@yahoo.com (+91) 9445006756	Supervisor (Known since 2006)
Baskar Babu	**Admin (MVPL Stumper Sports)** baskarbabu.r@maheshvalue.com (+91) 9597212444	Admin (Known since 2016)
Dr. Andras Farrago	**Scientist (UTDALLAS, USA)** farago@utdallas.edu (+001) 972-883-6885	TA Supervisor (Known since 2008)

Declaration: The above information is true to the best of my knowledge