

# Curriculum Vitae

## Personal Details

Name	K.VISALINI
Nationality	Indian
Mobile	+919486460561, +919841411920
E-mail:	<a href="mailto:info@kvisalini.com">info@kvisalini.com</a>
Website	<a href="http://www.kvisalini.com">www.kvisalini.com</a>
Intelligence Quotient	IQ 225
Languages known	Tamil, English, Hindi, Sanskrit

## Executive Summary

- An Enthusiastic & Passionate Researcher, currently working in Artificial Intelligence, Cognitive Neuroscience, Virtual Reality & Autonomous Navigation Agents.
- In Collaboration with – BEARS Lab (UCB), Singapore; GRACE Research Lab - University of Sannio, Italy; SUNY Polytechnic Institute, New York; IISc Bangalore;
- Recent research paper has been accepted by IEEE Aerospace & Electronics Systems.
- First time in Indian History, at the age of 15, was invited by the Director - Indian Space Research Organization, to deliver a technical lecture to 700+ ISRO Scientists on "Big Data & AI for ISRO".
- Entrusted with a confidential and strategically vital project for ISRO: ISAC-VNMS (ISRO Satellite Centre - Visalini's Network Management System) with 2 years duration, but completed within 35 days at 15 years of age.
- Delivered Keynote Addresses at 11 International conferences including 2 TEDx & Google India Summit from the age of 11.
- Secured direct admission to B.Tech after 8th grade of school, as an exceptional candidate & completed 4 Years B.Tech within 3 years in accelerated mode with honors.
- Honored by Indian Prime Minister Mr. Narendra Modi & President Dr. A.P.J Abdul Kalam.

## Education

B.Tech(Honors) Computer Science Engineering	Kalasalingam University, Virudhunagar, Tamilnadu, India	2015 - 2018	GPA: 9.54 out of 10
<i>Completed the 4 Years B.Tech Degree program within 3 years through an accelerated mode with honors.</i>			
Standard 6 - 9	IIFE Laxmi Raman Matric. Hr. Sec. School, Tirunelveli, Tamilnadu, India	Aug 2015	95 %
<i>Secured admission to direct B.Tech program at Kalasalingam University after 8<sup>th</sup> grade of school, as an exceptional Candidate.</i>			
Standard KG - 5	Bell Matric. Hr. Sec. School, Tirunelveli, Tamilnadu, India	July 2009	94 %
<i>Secured double promotion twice in academics, during my Primary schooling</i>			

## **Research Interests**

- My keen interest is to develop an AI / ML that helps to handle people of any age group with various levels of intellectual disabilities and can assist the doctors and special educators in handling the person and developing well-defined datasets for further research. Also, this can assist the mentally challenged person in the therapeutic conditions for behavior, sensory conditioning and self-care.
- Important Domains:
  - Artificial Intelligence & Machine Learning
  - Deep Learning
  - Cognitive neuroscience
  - AI in Psychology
  - Virtual Reality (VR)
  - Autonomous Navigation Systems
  - Networking
  - Internet-of-Things (IoT)

## **International Conferences addressed as Keynote Speaker from the age of 11**

- Google India Summit, New Delhi, India on May 2, 2015
- TEDx, National Institute of Technology Karnataka, (NITK) Surathkal, Mangalore, Karnataka, India on October 30, 2011
- TEDx SRM Kattankulathur, SRM University, Chennai, Tamil Nadu, India on March 28, 2015
- 5th Cloud Computing Summit 2012, Bangalore, Karnataka, India on May 11, 2012
- All India IEEE Computer Society Students and Young Professionals Congress, (AICSSYC'17), SSN Engineering College, Chennai, TamilNadu, India on December 17, 2017
- International Conference in Recent Development in Engineering and Technology (ICRDET - 2012), Bhopal, Madhya Pradesh, India on July 8, 2012
- International Conference on Computer Communications and Networks (i3CN - 2015), Coorg Institute of Technology, Halligattu, Karnataka, India on May 10, 2015
- International Conference of Stochastic Modelling and Simulation, (ICSMS - 2011) Veltech Technical University, Chennai, Tamil Nadu, India on December 15, 2011
- First International Conference on Computer Science, Engineering and Information Technology, (CCSEIT - 2011), MS University, Tirunelveli, Tamil Nadu, India on September 25, 2011
- International Conference on Computational Intelligence & Communication (ICCIC - 2012), SKR Engineering College, Chennai, TamilNadu, India on July 4, 2012
- International Conference on Computing, Communication & Information Technology (ICCCIT - 2012), Jaya Engineering College, Chennai, TamilNadu, India on June 27, 2012.

## Publication

- K. Visalini, Giovanni Palmieri, Korkut Bekiroglu, S. Thiyaku, B. Subathra, and Seshadhri Srinivasan, "Sensor Placement Algorithm with Range Constraints for Precision Farming", *IEEE Aerospace & Electronics Systems Magazine*. (Accepted & To be published)

## Completed Projects

- **ISRO Satellite Centre - Visalini's Network Management System (ISAC-VNMS)**
  - Provided with a time period of 2 years to complete the assignment. However, it was completed it, within 35 days.
  - After the completion of the project, it was presented in front of the ISRO council members.
  - It was submitted to Government of India, through Indian Space Research Organization (ISRO) at my 15 years and was named after me.
  - It was the first time in Indian history, that a 15 years old, was invited to work on a confidential project for ISRO.
- **Visalini's Solution for Demonetization Against Corruption (ViSDAC)**
  - Suggested a possible solution to the Government of India for implementation during demonetization to make the process smoother.

(The technical details about ISAC-VNMS and ViSDAC are restricted due to proprietary conditions)

## Ongoing Projects

- **Sensor Placement Algorithm with Range Constraints for Precision Farming (SPARC)**
  - Supervisor – Dr. Seshadhri Srinivasan, Berkeley Education Alliance for Research in Singapore (BEARS Lab, Singapore).
  - Collaborators:
    - Dr. Korkut Bekiroglu, Assistant Professor, Department of Electrical Engineering Technology, SUNY Polytechnic Institute, New York, US
    - Dr. Giovanni Palmieri, GRACE Research Group, University of Sannio, Benevento, Italy.
  - Key Contributions so far:
    - Propose an approach to correct the physical field and reconstruct it from minimal number of orthogonal functions.
    - The proposed method solves the optimal sensor placement problem with constraints imposed by sensor range.
    - Demonstrate the proposed methodology on a precision farming case-study by building WSN nodes using sensors and on-board computers. The remote sensing information obtained from real-measurements are used to illustrate the proposed approach.

- ***Vision based Navigation using Deep Reinforcement Learning***

- Supervisor – Dr. Suresh Sundaram, Associate Professor, Department of Aerospace, Indian Institute of Science, Bangalore, India.
- Hitherto, Autonomous vehicles have performed well in controlled environments, but the same is not observed in natural real-time environments.
- Key Contributions so far:
  - Propose reinforcement learning (Q-learning) based approach for an autonomous vehicle to navigate in an unknown real-time environment.
  - Allow the agent to update the reward function spontaneously by comparing each episodes of learning to drive. This has to be done meticulously as the agent may learn a move which seems odd to the existing reward function.

- ***Assistive Technology for Mentally-Challenged***

- AI-assisted therapy for people with neuro-cognitive disorders like, Mental Retardation, Alzheimer's disease, ADHD, Autism.
- Artificial stimulation and shutting down of selective neurons or neural-networks and Artificial brain-wave modulation techniques that is, by employing electric stimulation to uncover various aspects of brain lobes especially, frontal lobe that is involved in cognition and decision-making.
- Harness advanced technologies like Virtual Reality and ageless methods like meditation together and understanding various facets that they provide to the ailments of serious disorders especially, PTSD.
- Use AI to assist doctors and special educators in monitoring and predicting the cognition and decision-making processes of the mentally retarded persons. This can help in enhancing their physical, emotional and social well-being.
- AI that helps to handle people of any age group with various levels of ID and can assist the doctors and special educators in handling the person and provides much better level of analysis and therapeutic conditions for behavior, sensory conditioning and self-care.

- ***SOS Equipment for Soldiers***

- The Indian Soldiers at the Siachen Glacier area, a part of the Himalayas located 5,400 m above the sea level, protect the country keeping their lives at risk due to very uncertain weather conditions like landfalls, snowstorms and temperature of up to -50°C.
- Developed a solution that helps in identifying the locations of the soldiers struck in emergency circumstances and aid in recovering them.

- ***SOS Equipment for Women***

- Even though a lot of SOS devices and applications meant for women are available in the market, this device's uniqueness lies in its easy-to-access feature and reachability at any place including forbidden locations.

- ***SOS Equipment for Fishermen***

- The Indian Peninsular fishermen face the uncertain wild face of the oceans during storms and are unable to reach out for help due to the unavailability of network inside the sea.
- This project allows them to:
  - get alerted about the upcoming calamity
  - reach out for help to the coast guard and nearby ships
  - locate their location to rescuers

- ***Assistive Technology for Visually-Challenged***

- Currently, Visually-impaired persons undertake any kind of examinations with an aid of another person (scribe).
- The project aims at allowing them undertake all their exams individually without any dependency on other persons.
- A preliminary study shows that, the concept itself uplifts their self-confidence and morale.

- ***Chatbot using Reddit Threads***

- In search of data for my own chatbot, it was found that reddit community being the best place with massive data.
- This allows it to be a generalized chatbot that is able chat on any topic.

### **International Certifications Achieved from the age of 10**

- CCNA (Cisco Certified Network Associate)
- CCNA Security (Cisco Certified Network Associate Security)
- CCNP Route (Cisco Certified Network Professional - Route)
- CCNP Switch (Cisco Certified Network Professional - Switch)
- CCIE R&S Written (Cisco Certified Internetwork Expert)
- OCJP (Oracle Certified Java Programmer)
- MCP (Microsoft Certified Professional)
- ISTQB-ISEB (International Software Testing Qualifications Board - ISEB)
- CCSA (Checkpoint Certified Security Administrator)
- EMC-CISv2 (EMC - Cloud Infrastructure and Services)
- IELTS (International English Language Testing System)
- Exin Cloud Computing

## **Skills**

- Skilled in Artificial Intelligence – Machine Learning | Deep Learning | Reinforcement Learning
- *Expert in Networks* - Socket Programming | NS-3 | CISCO® Packet Tracer | GNS3® | Web IOU | Wireshark® | Ethereal® | TCP/IP Ethernet | 802.11 | 802.16
- *Proficient Programming languages* - C, C++, Java, Python
- *Skilled in Database Systems and Analytics* - MySQL | Oracle SQL | WAMP
- *Adept Web Technologies* - XHTML | JavaScript | PHP | CSS | Perl
- *Skillful Operating Systems* - Windows 7/Vista/XP | Ubuntu | Linux
- *Agile Proficiency in Essentials* - Microsoft® Word, PowerPoint, Excel | Adobe® Dreamweaver
- *Experienced in Entertainment* - Adobe® Premiere Pro | Kinemaster® Pro | Picsart®
- *Resourceful in Cloud Computing*
- *Experienced in Cyber Security & etc...*

## **Membership in Professional Societies**

- IEEE Student member
- IEEE CS Student member
- IEEE WiE (Women in Engineering) Student member

## **Appreciation from Well-known Personalities**

- Visalini, whatever you have achieved in this tender age (14) is a Great Service to our country India"  
– Hon'ble Prime Minister of India - Shri. Narendra Modi Avl
- "Hearty Congratuations Baby Visalini" - Honored twice in the age of 3 and 14.  
– Hon'ble President of India - Dr.A.P.J.Abdul Kalam Avl
- "Visalini possess a very high level of intelligence and ability to complete challenging tasks far beyond her age."  
– Padmashri Dr. Mylswamy Annadurai, Director, Indian Space Research Organization (ISRO)
- "Congratulations Visalini and wish you luck for all your future endeavours."  
– Mr. K.R.Sanjiv, Chief Technology Officer (CTO) WIPRO Ltd.
- "Visalini, Certainly your unique background and potential astounds me. Feeling happy to meet you dear."  
– Dr. Michael K.J. Milligan, CEO, Accreditation Board for Engineering and Technology (ABET), USA
- "I feel honoured and delighted to meet you Visalini. Your accolades so far, is greatly commendable"  
– Mr. Roger Fujii, President, IEEE Computer Society.

## **Awards & Honors**

- Bestowed with a MANGALYAN SATELLITE by Indian Space Research Organization (ISRO)
- Titled as THE YOUNGEST GOOGLE SPEAKER by Google India Summit, New Delhi
- Honored as the TEDx Speaker at TEDx NITK Surathkal.
- Titled as THE PRIDE OF INDIA by HCL Technologies
- Honored by the Chief Technological Officer of WIPRO Ltd.
- Felicitated by the Chairman and Managing Director of IOB.
- Felicitated by State Bank of India.
- Glorified by Various Indian & International Media
- Titled as THE AMAZING INDIAN - VISALINI by TIMES NOW English News channel
- Titled as THE MOST INTELLIGENT HUMAN BEING IS A TAMIL GIRL by SBS Australia, Sydney, Australia
- Felicitated by TAMIL NADU BOOK OF RECORDS and the Dean of World Records University, UK.
- Felicitated with INSPIRE AWARD by The Department of Science and Technology, Government of India, New Delhi.
- Honored as THE PRIDE OF TIRUNELVELI CITY by Tirunelveli Corporation, Tamil Nadu, India.
- Honored as THE PRIDE OF IPE by IPE Lakshmi Raman Matric. Hr. Sec. School, Tirunelveli, Tamil Nadu.
- Privileged in TOP 10 of 2016 - VISALINI by Vikatan Group
- Honored by various Social Organizations & more...

## **Summary of what I have done so far:**

- First time in Indian history, upon invitation from Indian Space Research Organization (ISRO), delivered 2 hours lecture regarding "Big Data and AI for ISRO", to 700+ scientists including Dr. Mylswamy Annadurai, Director, ISRO, when I was 15 years old. The lecture received huge applause and standing ovation and Mangalyaan Satellite (Sent to MARS by ISRO).
- Entrusted with a confidential and strategically vital project for ISRO with time duration of 2 years, but was able to complete it with full satisfaction of the authorities, within 35 days at my 15 years of age. The project ISAC-VNMS (ISRO Satellite Centre - Visalini's Network Management System) was submitted to the Indian Government through ISRO. This was the first time in the Indian History
- Suggested a possible solution for implementation during demonetization to make the process smoother, named ViSDAC (Visalini's Solution for Demonetization Against Corruption).

- The Indian Prime Minister Mr. Narendra Modi had honored me at my 15 years of age, by the following quote "Visalini, whatever you have achieved in this young age is a great service to our country India"
- The Indian President Dr. APJ Abdul Kalam had honored me twice.
- Invited as a Keynote Speaker at 11 International Conferences including Google India Summit & 2 TEDx; from my 11 years of age in the domains of Networking, AI and Cloud Computing.
- Completed 13 International Certifications and achieved 5 World Records in the domain of Computer Science from my age of 10.
- Research paper - *K. Visalini, Giovanni Palmieri, Korkut Bekiroglu, S. Thiyaku, B. Subathra, and Seshadhri Srinivasan, "Sensor Placement Algorithm with Range Constraints for Precision Farming", IEEE Aerospace & Electronics Systems Magazine. (Accepted & To be published)*. Also, I am currently working on few more research papers in Deep Reinforced Learning and technologies for ailment from neural disorders.
- Working currently on many projects including, but not limited to: Assistive Technology using AI for ailment from Mental Retardation, SOS Equipment for Soldiers, Emergency Rescue Device for Fishermen during natural calamities; [More info](#)
- Secured double promotion twice in academics, during Primary Schooling.
- Secured admission to direct BTech program at Kalasalingam University, as exceptional candidate by discontinuing the ninth grade of school.
- Completed 4 years BTech within 3 years through accelerated mode with a GPA of 9.54 out of 10 and passed with honors in July 2018.
- The Chief Technology Officer of WIPRO, Mr. K.R.Sanjiv honored by inviting me to join their AI research group as a distinguished member and work on any research problem of my interest.
- Delivered a Technical Lecture to IT professionals headed by the General Managers (IT) of Indian Overseas Bank at IOB Central office, India in the "Concept of Networking" at the age of 11. The Bank honoured me as a "Precious Customer" by keeping the Photograph of mine in their office, which is a privilege because the photograph of an individual will not be placed in a bank especially, in a Government entity.
- Delivered technical lectures at about 50 Engineering Colleges from my 11 years of age.
- Developed my own website at the age of 11 - [www.kvisalini.com](http://www.kvisalini.com)
- The Youngest Google Speaker
- The Youngest TEDx Speaker
- The Youngest Keynote Speaker