

K. Shivaramakrishnan | [Li](#) & [Github](#)

Data Science Researcher - NLP

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Experiences

*Total work exp. : as of July, 2021 from 2014.

NLP Research & dev : 6 year 9 months.

mean/mern stack : 4 years 7 months.

Enterprise Data Science & Research - NLP : 5 Years.

Parallel startup life : 7 years and 9 months.

Neuro biophysics lab.

RGCB, Trivandrum, Kerala.

{09/2013 – 11/2013} – 3 months

Synthesis, optimization, characterization and targeting of optically active carbon Nanospheres as a drug carrier to the lipid rafts of optic nerve glias. – An alternative.

Experience in patch clamp techniques with Dr. Reshmi Mishra(RGCB) & Dr. Kai Saimon (MPI-CBG) worked along with their PhD students on characterizing by imaging successful drug targets on interneurons and lipid rafts with membrane potential dye (di-8-anepss).

Nanomedicine lab.

Sankara nethralaya (VIBS), Chennai, Tamil Nadu.

{11/2013 – 04/2014} – 6 months

Synthesis, characterization, optimization and stabilization of ovalbumin Nanoparticles for drug encapsulation towards improved cancer therapy.

With the guidance of senior scientist, Dr. S. Krishna Kumar and Dr. J. Narayanan, Optimized, Synthesized, Characterized and stabilized ovalbumin (isolated from raw mesolecithal egg) and synthesized it into hollow EpCam encapsulated spherical shells of ovalbumin Nanoparticles - ready to be filled with drugs for targeting early stages of Glioblastoma. The carriers were filled with doxorubicin and tested for its efficacy as a carrier.

**Microbial and Nano Technology lab - Research Studentship
CBIRD Research Lab, Sathyabama University, Chennai, Tamil Nadu.**

{04/2011 – 09/2013} - 2.5 years

With the guidance of Associate Professor Dr. S. Karthik Raja Namasivayam. Started working as a student researcher at CBIRD (Centre for Bio Resource and Development) - Sathyabama University, which paved my journey towards research in the fields of Nanotechnology, Microbiology and Cancer Biotechnology.

The following are a few core works published & in proceedings.

- Antibacterial activity of chitosan coated silver nanoparticles against major fish pathogen *Aeromonas hydrophila*. - **Proceedings.**
- Improved Antibiofilm and Anti-Fungal Effect of Biocompatible Polymer Stabilized Chemogenic Metallic Nanoparticles Against *Candida Albicans*. - **Applied Biotechnology and Biochemistry, Springer.**
- Decomposition of Dried leaf wastes with EM (designed consortium) and evaluation of EM dried compost on plant growth parameters of *Arachis Hypogaea*. - **Elsevier.**
- Influence of FeSO₄ on magnetosomic nanoparticles synthesized by microorganisms. - **Proceedings.**
- Antibacterial and Anti-Tumor activity of Endophytic Fungal Metabolites isolated from garden weeds. - **Proceedings.**
- Synthesis and characterization of Optically active and water soluble carbon Nanoparticles by chemical reduction method. **IEEE.**
- keynote speaker - National Conference on "Green Chemistry and safer environment - 2017", St. Mary's College, Thoothukudi, Tamil Nadu as a keynote speaker and Resource Person. - Keynote publication.

(list last update - Dec 2017)

HTIC - Healthcare Technology Innovation Centre, IITM Research Park

Internship {July 2017 - Jan 2018}

Worked in BioMedical Diagnostic Tool development for project acceleration and as an intern developer for Mouse Brain Connectome, CSHL with Keerthi ram .

CCBR - Centre for Computational Brain Research, Bio-2 , IITM

Research Associate , Electrical Engineering Dept

{Jan 2018 - July 2019} - 1 year 6 months

Developed a natural conversational navigator and developer for the Brain Architecture project by Dr Partha Mitra, Cold Spring Harbor Lab.

Designed and developed tools, pipelines, brain viewer 2, 3 and parts of viewer 4 at brainarchitecture.org and braincircuits.org,

A NIH Funded project more information can be found [here](#).

- First research associate of CCBR, IIT Madras for the Brain Architecture Project.
- Development timelines and project scope and manage the application and algorithm developments from researchers of 18 Labs across the globe for about 2 years.
- Was developing in angular js, mongodb, sql/postgres and python for development of the entire project, database segmentation and dense rendering along with scientific functional ui in aws architecture.
- Designed a syllabus & tutored the CCBR Machine Learning Winter Coursework of 2018, 2019 and 2020.

Tried a Proof Of Concept of Project ADAM, a conversational big-brain database navigator and assistant for computational neuroscience researchers for Brainarchitecture.org

Data Science Consultant

{may 2019 - sept 2019} - 5 months

HTIC, IIT Madras, Chennai, Tamilnadu

GE's project - Development of a suggestion agent to aid radiologists and doctors in making accurate and lossless annotation on MRI patient records.

- Organized project infrastructure with GE's GCP credits, documentation and operating procedures.
- Consulted on design, architecture, planning and implementation of NLP deep learning neural networks and its architecture using modified radspacy and medspacy with Apache cTAKES.
- Created test protocols, qualification documents, test plans and test reports for model performance evaluation standards.
- Trained, tested and deployed stacks into GCP.
- Managed interns and mentored them from planning, assigning, executing and completing the projects.
- Consulted on development of hybrid deep learning network algorithms for precision vs recall accuracy.

CTO & Technical Consultant

{Aug 2019 - March 2020} - 9 months

Mocero Health Solutions, IITMRP, Chennai, Tamilnadu

- Revamped the existing development and HMS product line workflow with machine learning features.
- Architected the product and technical architecture and created pipelines for UrSugar and UrCare product series such as Curola and Convenient Care.

Founder - Forest Studio

{Jan 2020 - current} - 1 year 11 months

- Carnivorous & red listed endangered plant specie propagation & conservation based automated Tissue culture lab at bangalore for mass production.

Senior Project Engineer - Data Science & Ai

{Aug 2020 - Nov 2020} - 4 months

CCBR, IITM, Chennai, Tamilnadu.

- After the Mouse and Marmoset Brain project, IITM Initiated the digital human brain model project.
- Preparing and recycling the stack and ML backend algorithms for the Human Brain Project funded by DST & DBT.

Consultant - Zhiffy - Algorithm

- Ideated, designed and produced the olx integration engine for zhiffy with the new payment gateway system.

Innovation Lead - 5C Networks, Bangalore - Data Scientist

{June 2021 - Aug 2021} - 3 months

- I created and led the NLP projects, designing its architecture, goals, business viability and competitive edge at 5C Networks.

Founder - Cephei Technologies, IIT Madras Incubation cell

{Jan 2020 - current} 1 year 11 months

- Freelancing NLP and CV projects
 - Vikas Associates - legal text processing pipeline
 - SAHFE Technologies - CV - Food processing and segmentation pipeline
 - Flying Feather Academy - IMU based badminton performance tools.
 - Features shots, net drops, smash, defense and Backhand swing detections using time series data from 9axis imu sensor.

Education

Undergraduation - Bachelor of Technology Biotechnology – Majored in Neurology Sathyabama University, Chennai

04/2014

My under graduation focused on research which extensively helped me explore deeper avenues with relations of CS, Neuroscience & nanotechnology in practical applications.

Other Postgraduate coursework activities

- Masters in CS at IIT Madras, Chennai. - 2018 - 2020 (**dropped out in 2019**)
- Advanced Natural Language Processing (CS6370)
- GPU Programming (CS6023)
- Reinforcement Learning (CS6700)
- Principles of Neuroscience (BT5270)
- Pattern recognition and machine learning (CS5691)
- **Tutored** at CCBR (IITM) : Winter Machine learning - coursework 2018, 2019 & 2020 - (ID7123) - Theory & Lab works.

Communication

- Found efficient in working with senior research scholars, postdocs and their team members from various domains in developing novel ideas and methods to solve problems in the field of neurology, drug design , development & kinematics and machine learning systems.
- Presented my research works at several national and international conferences/symposiums, winning a few publication awards.
- Worked with various groups as a key member rapidly equalizing the contribution created.

Leadership

- Organised National and International conferences/symposiums.
- Organiser and reviewer of **Pysangamam' 18 & Pycon India' 19**.
- Founded EEG/BCI research startup called Soul Scientific in 2012, incorporated in 2016 developing a wide range of products from neuroscience to agritech.
- Founded Cephei Technologies, an NLP Paas Startup Incubated at IITMRP from 2019, shutdown as of march 2020.
- Founded Forest Studio in 2018, an ecology retrieval based smart agri startup, still providing services across India.

Other skills

- Hobby - Hardware developer and prototyping : Eagle CAD, Altium and KiCad | Specialization : Portable Healthcare wearables.
- Organization of time frames, project management and Technical documentation.
- Drone designer and developer. (Sponsored by Hindustan University) : Represented India "Most Innovative Design Award" by *Association for Unmanned Vehicle Systems International Aerial Robotics Competition* -2014, Yantai, China.
- Badminton State level player (TN).
- A Mean-Stack developer : Deep learning using Natural language processing, Classification and adversarial networks problems.
- Perpetual trekker, Psychologist, Lifecoach, Botanist, carnivorous gardener & BCI Developer.

Designed & Developed at Soul Scientific and Agrio : As the Founder and Research Director :

- Designed several prototypes for plant and animal **electrophysiology** mining, learning and as automation control system interfaces.
- Optimization and selection of components for an autonomous multirotor UAV with obstacle avoidance capability using ultrasonic sensors. - **Proceedings**
- Won the *Best Autonomous Drone Design Award* at International Aerial Robotics Competition (IARC) 2014, China, only team representing India – Sponsored by Hindustan University, with Dr. Dalbir Singh. - **Proceedings**
- CAN and LIN BUS based **BCI control system** prototype developments.
- Wildlife conservation volunteer at Indian Wildlife Club and WWF India.
- Lifetime member at Krishnamurthy Institute of Algology.