

Mr.K.S.Ramanujan. <ramanujan@leepdrive.com>; 9148977915/9360309098

Managing Director – LeeP eDrive Private Limited < <http://www.leepdrive.com/>>

Also Director Technology, Encompass Electronics Pvt Ltd < <http://www.encompassindia.com/>>



38 years Independent consultant working in the areas of semi-conductor design research, embedded systems, High power Electronic drives, High Performance Computing, Computational systems biology and Intellectual Property Rights, High Energy Li ion battery & electrical energy storage technology.

Expertise:

Power electronics, VLSI & Integrated Circuit design & High performance multiprocessor architecture Parallel computing.

Professional Qualification:

B.Tech Electrical Engineering IIT – Madras – 1980 batch, Siemens Gold Medallist

Specialization:

Power Electronics / Power systems / Control System Engineering & analysis.

Current Roles:

1. Leading a team of engineers for building networked Smart Li Batteries and battery management for high energy use for Electric vehicles and EV power train. Founder Director of LeeP eDrive Private Limited
2. Leading a team of engineers and computer system architects in High Performance Computing to realize the computational models for cells and microbe systems biology as related to drug research and whole cell bio-transformations with focus on scalable parallel processing and big-data handling. This domain applies electrical control engineering principles for analysis of System biology computations and predictive analysis.

Work Experience:

37 years in the Industry with expertise in the following areas(1980 – onwards)

- Design and manufacture of custom built Power and Servo control engineering electronics system level equipment:
 - System level integration of SW and HW for Windows and Linux based systems.

- High energy Plasma systems – control and design of power supplies for Plasma Nitriding & allied surface engineering technologies
- High power inverters and resonant power converters
- Embedded control systems.
- Computer aided VLSI chip design (2005 – 2012) :
 - VLSI design & Integrated circuit lay out and fabrication.
 - Design & Fabrication techniques for Integrated Circuit.
- Li based Energy storage Technologies for Solar Photovoltaic and Electric vehicles use. (2015 – onwards)
 - Have prototyped a 3-W and 4-W electric vehicle drives 2.5 KW to 15 KW as technology demonstrator.
 - Networked battery with remote communications and energy data access.
- Expertise in Computational systems biology (2005 – onwards)
 - This domain applies electrical control engineering principles for analysis of System biology computations and predictive analysis in life sciences.
 - Member of promoting team Cellworks Research India Pvt Ltd and wholly owned subsidiary of Cellworks Group Inc involved in computer modelling as an in-silico bio platforms for virtual Cancer cell lines analytical platform built using control engineering algorithms to model cancer cell biology networks used in;
 - Cancer progression predictive analysis.
 1. Accelerating drug research and in-vitro studies.
 2. Toxicity analysis.
 3. Theoretical study on multi-drug therapies.
 - Paralleling processing for high performance data generation for predicting cancer cellular pathway functions.
 - Mathematical modelling of phenotypic microbial behaviour at systemic level.
 - Genome level regulatory modelling of microbial gene network
- Medical Electronics system design (2016 – onwards)
 - Member of promoting team Biomoneta India Pvt Ltd engaged in air decontamination device for application in Hospital and health care point centres for managing air borne microbial contamination.
- Intellectual Property related expertise (2012 – 2017)
 - Consultant to Patent Attorney Firm M/S Lakshmikumaran & Sridharan – Attorneys
 - Associated in Patent analysis, drafting and technical expertise for infringement and prosecution analysis.

- Patents filed.
 - a. 2507/CHE/2010 dated 24th Aug 2011: “SYNCHRONOUS CURRENT INJECTION CONTROLLED PARALLEL RESONANT POWER INVERTER”. (Published & under grant)
 - Uses FPGA based processing architecture to track and control Resonant High voltage & High current parallel resonant circuits for metal processing.
 - b. 2068/CHE/2012 dated 23rd May 2012: “A GENETICALLY MODIFIED MICROORGANISM AND METHODS FOR PRODUCTION OF ISOBUTANOL” (Pending publication) & Assigned to Cellworks Research India Pvt Ltd (Published & under grant)
 - Simulation systems and engineering for bio-fuel manufacture.
 - c. 4718/CHE/2012 dated 9th Nov 2012: “SYSTEM AND METHOD FOR DEVELOPMENT OF THERAPEUTIC SOLUTIONS” published as PCT NO: PCT/IB2013/060011 and assigned to Cellworks Research India Pvt Ltd (Published & under grant)
 - Simulation system for gene mutation based personalized therapeutic treatment in Cancer.
 - d. PCT/IN2018/050296 patent application dated 11th May 2018 for AIR DECONTAMINATION DEVICE.
 - Uses High voltage engineering device physics for managing decontamination with augmented anti-microbial surfaces
 - e. 201841001088 NETWORKED BATTERY FOR HIGH ENERGY APPLICATIONS. (Pending publication)
 - Uses embedded processing architecture to track and control large energy batteries in a network for use on Pay-on-Charge use by EV users.
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