

**ACADEMIC QUALIFICATIONS**

Year	Degree/Certificate	Institute/School, City	CGPA/%
2016	Dual Degree (B. Tech. (Honors) + M. Tech.), Biotechnology & Biochemical Engineering {Minor in Chemical Engineering & Micro-specialization in Biomedical Devices & Instrumentation}	Indian Institute of Technology (IIT), Kharagpur	<b>9.29/10 (Rank 1)</b> <b>Institute Silver Medal</b>
2011	Class XII (CBSE)	Maharishi Vidya Mandir Sr. Sec. School, Chennai	95.4%
2009	Class X (CBSE)	The Hindu Colony Chellammal Vidyalaya, Ch.	96.8%

**NOTABLE AWARDS & ACHIEVEMENTS**

- Recipient of **Samsung Citizen Award** – for successful integration of algorithm for commercialization in short span of time (2017)
- Awarded **Proficiency Prize for the Best Project Work** among the graduating batch of 2016 – IIT Kharagpur (2016)
- Awarded **MITACS Globalink Research Fellowship** 2015 – Toronto, Canada (2015)
- Awarded University of Alberta Research Experience (**U ARE**) fellowship for a 10 week research internship in Canada (2014)
- Winner – Best Team Level Demo & Special Mention – **NIPUN 2016** (Samsung India, Internal Tech Fair) (2016)
- Awarded the esteemed **KVPY** Scholarship by Dept. of Science and Technology, Govt. of India (**top 300/1** lakh applicants) (2011)
- Selected for **DAAD-WISE** Research Fellowship 2014, 2015 and **Indian Academy of Science Fellowship** 2014 (2014)
- Amongst **top 1%** students in National Standard Examination in Chemistry (**NSEC**) & selected for **INChO** (2011)
- Secured first place in biomedical Code-A-Thon conducted by **Google Developer Group** BBSR in **Illuminati 2016** (2016)
- Awarded CBSE Merit Certificate in Science for being in top (**0.1%**) in Class 10 Board examination (2009)

**JOURNAL & CONFERENCE PUBLICATIONS**

- Srinivasan Sivanandan** and Athi N. Naganathan. A disorder-induced domino-like destabilization mechanism governs the folding and functional dynamics of the repeat protein IκBα. **PLoS Computational Biology**, 9(12): e1003403, 12 2013
- Srinivasan Sivanandan**, Nithin Chandran, Sunandan Mukherjee, and Ranjit Prasad Bahadur. Mapping of RNA binding residues in human proteome using global and local protein sequence features. **International Work-Conference on Bioinformatics and Biomedical Engineering, (IWBBIO)** Apr. 2016 (Poster)
- Nikhil Narayan Subbarao, **Srinivasan Sivanandan**, Srinivas Rao Kudavelly, Kedar A. Patwardhan, and G. A. Rama Raju. Automated detection and segmentation of follicles in 3D ultrasound for assisted reproduction. **SPIE Medical Imaging Conference**, Feb. 2018 (Oral Presentation)

**WORK EXPERIENCE**

**Senior Software Engineer - Ultrasound Imaging Research, Samsung R&D India, Bangalore** (Jun '16 – present)

- Algorithm design and development for 3D Ultrasound and Pulsed Wave Doppler applications focusing on Obstetrics and Gynaecology.
- Key contributor - new **5DFollicle™** (algorithm development & system integration), Advanced **Fetal Heart** Doppler Applications.
- 2** Conference Papers (1 Accepted, 1 Review In-Progress), **3** Invention Disclosures, **1** Commercialized Product.

**PROJECTS & INTERSHIPS**

**Masters Thesis – Computational Structural Biology Lab, IIT Kharagpur** (Jul '15 – May '16)

- Worked with **Dr. Ranjit Prasad Bahadur** on development of a sequence-based meta-classifier for the mapping of RNA binding regions (RBR) in protein sequences. Designed and developed a system to prepare a catalogue of RBRs in human proteome.
- Project selected for poster presentation in **IWBBIO**, Spain.

**Research Intern - Ontario Institute for Cancer Research, Toronto, Canada** (May '15 – Jul '15)

- Worked with **Dr. Paul Boutros, University of Toronto** on development of streamlined and configurable software for generating heterogeneous tumors and benchmarking of SNV callers (MuTect, SomaticSniper, Strelka and Mutationseq) using pipeline.
- Simulated 3 whole genome tumors using the pipeline for **ICGC-TCGA DREAM SMC Tumor Heterogeneity Challenge**.

**Bachelor's Thesis – Computational Structural Biology Lab, IIT Kharagpur** (Jul '14 – Apr '15)

- Developed a Random-forest based machine learning model for the classification of RNA binding regions of a protein using its sequence features and benchmarked the model with existing classification algorithms.
- Analyzed the binding patterns of similar protein sequences binding with multiple dissimilar RNA sequences.

**Research Intern - Centre for Prions and Protein folding Diseases, University of Alberta, Edmonton, Canada** (May '14 – Jul '14)

- Worked with **Dr. Holger Wille** on establishing an efficient non-immunoaffinity based method for purification of cellular isoform of prion protein from FVB mouse brains using Cu<sup>2+</sup> Immobilized Metal Affinity Chromatography and genotyping of transgenic mouse tissues.
- Presented poster on “Purification of the cellular form of the prion protein from wild-type mouse brain” in **U ARE symposium**.

**Computational Research Intern - Department of Biotechnology, Indian Institute of Technology, Madras***(May '13 – Jul '13)*

- Worked with Dr. Athi N. Naganathan on development of Multi-parameter Folding landscapes of Protein Native Structures using Single Sequence Approximation. Modeled disorder and binding-induced folding systems using an Ising-like WSME model.
- Analyzed nature of natively unfolded proteins and simulated their folding kinetics using Monte-Carlo methods

**OTHER SOFTWARE PROJECTS****PlotExt – OpenSoft Project, Indian Institute of Technology, Kharagpur***(Apr '16 – May '16)*

- Designed a novel image processing methodology for automated extraction of axis, scales and plot data from text documents.
- Developed a GUI application for automated and manual extraction of plots as a part of OpenSoft Team, MS Hall - IIT Kharagpur.

**Co-Founder and Lead Developer, ReadersNode (1400 registered users, 1500 books shared)***(Jan '15)*

- Co-founded ReadersNode with 3 others, an online platform for selling, buying and renting books on campus and in local communities.
- Full-stack (LAMP) development, SEO and usage analytics for user experience of ReadersNode (<http://readersnode.com>).

**AutoMosaic – OpenSoft Project, Indian Institute of Technology, Kharagpur***(Apr '14 – May '14)*

- Designed a novel dynamic programming algorithm for automated mosaicking of torn paper documents maximizing the accuracy and efficiency of the solution.
- Developed software **AutoMosaic** (<https://github.com/srinivasans/AutoMosaic>) using the designed algorithm in Python.

**ResCite – OpenSoft Project, Indian Institute of Technology, Kharagpur***(Apr '13 – May '13)*

- Developed an open-source software to search Journal Papers using Microsoft Academic Search API, analyze author citations and bookmark favorites in C# (<https://github.com/srinivasans/OpenSoft2013>).

**TECHNICAL LEADERSHIP****Captain OpenSoft, Meghnad Saha Hall of Residence***(Jul '13 – Apr '15)*

- Led a **Bronze medal** winning team of **10** and formulated an efficient and accurate algorithm for torn paper document reconstruction.
- Led a team of **10** to develop GUI application for plotting graphs with mathematical functions as input.

**Web Team Head, Kshitij – Asia's Largest Techno-Management Fest***(Apr '13 – Apr '14)*

- Led a **5** member team to develop and maintain the website, online games, and app for Kshitij 2014.
- Redesigned and developed online forex and stock market simulation games **Woodstock and Forex** in Python for Kshitij 2014.
- Organized code base and structured the website into persistent and well extendable components with **MVC architecture**.
- Managed a nightlong coding event with **76** on-site participants as **Tech Head of Overnite**.

**General Secretary, Association of Biotechnologists***(Apr '13 – Apr '14)*

- Elected as the undergraduate student representative of **250 students** of Department of Biotechnology.
- Initiated webinar conferences with eminent alumni of department and coordinated designing of department magazine.

**Web Head & Founding team member of Public Relations Cell, IIT Kharagpur***(Apr '12 – Apr '14)*

- Developed a new layout for campus website with additional functionality for events calendar, news board, and timeline.

**CERTIFICATION**

- **Six Sigma Green Belt** by KPMG

**RELEVANT TECHNICAL SKILLS**

- **Programming and Databases:** C, C++, Python, C#, WPF, SQL (MySQL, PostgreSQL, SQLite), Shell Scripting, Perl, Java, R Statistical Programming, MATLAB/Octave, OpenCV, ITK, VTK
- **Web Development:** HTML, CSS, JavaScript, Object Oriented PHP, AJAX, JQuery, Yii PHP Framework, Django Framework

**RELEVANT COURSES TAKEN**

- Programming & Data Structures, Advanced Calculus (Mathematics I), Vector Algebra (Mathematics II), Partial Differential Equations, Probability and Statistics, Discrete Structures, Design and Analysis of Algorithms, Algorithms Laboratory, Computer Software, Computational Biophysics, Bioinformatics, Computational Structural Biology, Process Modeling and Simulation

**KEY EXTRA-CURRICULAR ACHIEVEMENTS**

- **Hall Blue** – Technology and Entertainment Meghnad Saha Hall of Residence, IIT Kharagpur.
- Won **Silver medal** in Inter-hall **Eastern Vocals** (Vice-captain of team) and **Ad-design** 2013 conducted by Gymkhana.
- Core team volunteer at **International Society for Computational Biology** (ISCB) Student Council - RSG India.
- Represented MS hall of residence in Inter-hall OpenSoft, Data analytics, Eastern Vocals, Eastern Groups and Ad-design events.
- Tutor - **Programming & Data Structures** - Instructed a class of 80 freshmen for a semester.
- Won **first place** in district level “Design with stamps” contest conducted by Indian Postal Department.