

## CURRICULUM VITAE

Bio Data	
Name	Karthik C Srikanta
Date of Birth	23 <sup>rd</sup> February 1991
Nationality	Indian
Permanent Address	#102/9/1, 2 <sup>nd</sup> Cross, Tata Silk Farm, Basavanagudi, Bangalore-560004.
Contact Details	<ul style="list-style-type: none"><li>• <u>Email ID</u>: karthik[dot]c[dot]s[at]iitb[dot]ac[dot]in karthik0112358[at]yahoo[dot]com</li><li>• <u>Phone</u>: +918026762369 (R) +919769105294 (M)</li></ul>
Education	<ul style="list-style-type: none"><li>• <u>IIT Bombay</u>: Junior undergraduate with Major in Chemistry and Minor in Computer Science and Mathematics.</li><li>• <u>Sri Kumaran Children's Home</u>: Completed 12<sup>th</sup> Standard in Central Board of Secondary Education with 87.6%.</li><li>• <u>Sri Kumaran Public School</u>: Completed 12<sup>th</sup> Standard in Central Board of Secondary Education with 88.3%.</li></ul>
Research Interest	
<u>Computer Science</u> : <ul style="list-style-type: none"><li>• Design and Implementation of Deterministic Algorithms</li><li>• Theoretical Computer Science</li></ul>	<u>Mathematics</u> : <ul style="list-style-type: none"><li>• Graph Theory</li><li>• Combinatorics</li><li>• Number Theory</li></ul>
Scholastic Achievements	
High School	<ul style="list-style-type: none"><li>• 5<sup>th</sup> rank in Karnataka Regional Mathematical Olympiad.</li><li>• 17<sup>th</sup> rank in Indian National Mathematical Olympiad.</li><li>• Youngest KVPY (Kishore Vaigyanik Protsahan Yojana) fellow, Stream SP.</li><li>• Secured 24<sup>th</sup> rank (amongst more than 42000 participants) in Preliminary level of NTSE (National Talent Search Examination) and was awarded Scholarship and Certificate of Merit for clearing the final round.</li><li>• Awarded High Distinction certificate for securing a position in top 44 in Asia in Mathematics Test of International Assessment for Indian Schools.</li><li>• 6<sup>th</sup> rank across India in final round of the Bhaskara Mathematical contest conducted by Association of Mathematics Teachers of India.</li><li>• 2<sup>nd</sup> position in State Level Talent Search examination conducted by Bharath Puraskar Academy.</li></ul>
College	<ul style="list-style-type: none"><li>• Recipient of KPMG scholarship.</li><li>• Recipient of INSPIRE scholarship.</li></ul>
Internships	
Google Summer of Code 2011	<ul style="list-style-type: none"><li>• <u>Mentor</u>: Prof. Kannan Moudgalya, IIT Bombay and Prof. John Pye, Australian National University.</li><li>• <u>Mentor Organization</u>: ASCEND.</li><li>• <u>Abstract</u>: Design and Implementation of Algorithms (in C) for checking linearity in derivatives of Differential Equations. Generated the mass matrix for set of differential equations and also verified through CUnit test cases.</li></ul>
Affordable Solutions Laboratory, 2010	<ul style="list-style-type: none"><li>• <u>Mentor</u>: Prof. Deepak B Phatak, IIT Bombay.</li><li>• <u>Abstract</u>: Built a Dictionary tool on variation of Hashing technique, with back end in C++ and front end in Java for ProxyMITY, a Multimedia Integrating Tool Kit for e-learning. It is a fast searching tool and exploits several lexical properties.</li></ul>

Projects and Publications	
“A few equivalences of Wall-Sun-Sun prime conjecture”, 2011	<ul style="list-style-type: none"> <li>• <u>Journal</u>: International Journal of Mathematics and Applications, Volume 4, No 1, 2011, Serial Publications.</li> <li>• <u>Collaborator</u>: Arpan Saha, IIT Bombay.</li> <li>• <u>Abstract</u>: In this paper, we prove a few lemmas concerning Fibonacci numbers modulo primes and provide a few statements that are equivalent to Wall-Sun-Sun Prime Conjecture. Further, we investigate the conjecture through heuristic arguments and propose a couple of additional conjectures for future research.</li> </ul>
“Data Streaming Algorithms”, 2011	<ul style="list-style-type: none"> <li>• <u>Mentor</u>: Prof. Nutan Limaye, IIT Bombay.</li> <li>• <u>Abstract</u>: We studied <i>The space complexity of approximating the frequency moments</i> paper authored by Alon, Matias, Szegedy. Next we studied <i>Approximating the Longest Increasing Sequence and Distance from Sortedness in a Data Stream</i> paper authored by Gopalan, Jayaram, Krauthgamer, Kumar. Later we put forward attempts at results in some of the open problems in the field- Reduction from existence of path in a graph to determining LIS.</li> </ul>
“Applications of Finger Print Technology in IIT Bombay campus”, 2009	<ul style="list-style-type: none"> <li>• <u>Course Instructor</u>: Prof. Deepak B Phatak.</li> <li>• Group project on various applications of Finger Print Technology in IIT Bombay campus, implemented through C++.</li> <li>• <u>Ideas Implemented</u>: Bus pass, Entry and Exit of campus, and also a forum for students living in campus.</li> </ul>
“Some New Results in Classical Number Theory: Diophantine Equations and Prime Numbers”, 2006	<ul style="list-style-type: none"> <li>• <u>Mentor</u>: Retd. Prof. Santhanam, IIT Bombay and Prof. Gautam Bharali, IISc Bangalore.</li> <li>• Research Project was selected to be among Top 16 across India and was thus awarded KVPY Fellowship.</li> <li>• <u>Topics Discussed</u>: Proved various theorems concerning Diophantine Equations and modular analysis of twin primes.</li> </ul>
Teaching Experience	
CS 101 course, Autumn Semester 2011	<ul style="list-style-type: none"> <li>• <u>Course Instructor</u>: Prof. Deepak B Phatak, IIT Bombay.</li> <li>• <u>Position</u>: Teaching Assistant.</li> <li>• Set up Assignment problems and monitored Labs.</li> </ul>
International Mathematical Olympiad Training Camp 2011	<ul style="list-style-type: none"> <li>• <u>Chief Coordinator</u>: Prof. C R Pranesachar and Prof. B J Venkatachala, IISc Bangalore.</li> <li>• <u>Position</u>: Guest Lecturer.</li> <li>• Discussed Number theoretic, Combinatorial and Algebraic approaches to problems involving Fibonacci numbers.</li> </ul>
Camps	
Summer Course 2010	<ul style="list-style-type: none"> <li>• <u>Course Title</u>: Advanced Programming in C++.</li> <li>• <u>Instructor</u>: Prof. Supratim Biswas.</li> <li>• Achieved 4<sup>th</sup> rank among all undergraduates.</li> </ul>
Nurture Program 2009	<ul style="list-style-type: none"> <li>• Amongst 21 students across India to be selected for the camp.</li> <li>• <u>Place</u>: Indian Statistical Institute, Delhi.</li> <li>• Learnt various topics in Group, Ring and Field theory and some introduction to Probability theory.</li> <li>• Awarded NBHM scholarship for good performance.</li> </ul>
International Mathematical Olympiad Training Camp 2007 & 2008	<ul style="list-style-type: none"> <li>• Amongst Top 30 across India to attend the camp (twice).</li> <li>• <u>Place</u>: Homi Bhabha Centre for Science Education, Mumbai.</li> <li>• Learnt various topics in Number Theory, Combinatorics, Geometry and Algebra.</li> </ul>
Relevant Courses	
Computer Science	<ul style="list-style-type: none"> <li>• CS 101 – Computer Programming and Utilization</li> <li>• CS 207 – Discrete Structures</li> <li>• CS 208 – Automata Theory and Logic</li> <li>• CS 213 – Data Structures and Algorithms</li> </ul>

	<ul style="list-style-type: none"> <li>CS 691 – R &amp; D Project (Data Streaming Algorithms)</li> </ul>
Mathematics	<ul style="list-style-type: none"> <li>MA 105 – Vector Calculus</li> <li>MA 106 – Linear Algebra over field of Real Numbers</li> <li>MA 108 – Differential Equations I</li> <li>MA 401 – Linear Algebra over any field</li> <li>MA 403 – Real Analysis</li> </ul>
<b>Extra-Curricular Activities</b>	
Chess	<ul style="list-style-type: none"> <li>Awarded “4<sup>th</sup> Best Player of the Year” by C V Raman Club.</li> <li>Secured 3<sup>rd</sup> Place in tournament conducted by Hosur Chess Academy.</li> <li>Secured 4<sup>th</sup> Place in School Chess Tournament conducted by Innovators Chess Academy.</li> </ul>
Table Tennis	<ul style="list-style-type: none"> <li>Senior Player of High School Team and represented in various competitions.</li> <li>Represented Hostel 3 in General Championships 2010 and 2011.</li> </ul>
Poetry	<ul style="list-style-type: none"> <li>Nominated as “Poet of the Year 2005” by International Society of Poets.</li> </ul>
Music	<ul style="list-style-type: none"> <li>Learnt Carnatic classical music (vocal) under the tutelage of Mrs. Pankajam Ramanathan (completed Alankaras, Geetam and Swarjithe).</li> </ul>
National Service Scheme	<ul style="list-style-type: none"> <li>Served the Educational Outreach division for 4 months.</li> <li>Served the Personality Development division for 4 months.</li> </ul>
Adventure	<ul style="list-style-type: none"> <li>Attained the Bronze standard in Duke of Edinburgh’s scheme of International Award for Young People.</li> </ul>
Basketball	<ul style="list-style-type: none"> <li>Won the annual competition at Jayanagar Sports Club in 2000 and 2001.</li> </ul>
<b>Positions of Responsibility</b>	
Coordinator	<ul style="list-style-type: none"> <li>Coordinator of Mood Indigo 2010, in the Competitions Department and was responsible for the successful completion of “SwarSandhya” and “Sitaaron ke Saath” events.</li> </ul>
Batch Coordinator	<ul style="list-style-type: none"> <li>Lead a batch of 21 students in the completion of “Applications of Finger Print Technology in Campus of IIT Bombay” project for CS101 course, and achieved the highest marks in the project and was recognised as the best project (among 800 odd students i.e. 40 batches).</li> </ul>
<b>Others</b>	
Joint Entrance Examination	<ul style="list-style-type: none"> <li>Secured a position in Top 1% of India and was offered admission to Indian Institute of Technology, Bombay.</li> </ul>
Indian Statistical Institute, Bangalore	<ul style="list-style-type: none"> <li>Among the 17 students to secure admission for B.Math program across India.</li> </ul>
Chennai Mathematical Institute	<ul style="list-style-type: none"> <li>Among the 21 students to secure admission for BSc(Honors) program across India.</li> </ul>
Bangalore Academy of Specialized Education	<ul style="list-style-type: none"> <li>Secured 4<sup>th</sup> Rank in their entrance examination for IIT-JEE preparation program.</li> </ul>
Sri Kumaran Children’s Home	<ul style="list-style-type: none"> <li>Secured 1<sup>st</sup> Rank in their entrance examination for admission to their High School Program.</li> </ul>
Programming Attempts	<ul style="list-style-type: none"> <li><u>JAVA</u>: Wrote a 16500 lines of code in 2005 to create a running prototype of an Indian Reality Quiz Show.</li> <li><u>C++</u>: Wrote a 4000 line program in 2008 to create a strong data encrypted database, implementing various ciphers.</li> </ul>