

# ஸ்ரீநிவாஸன் கண்ணன்

Srinivasan Kannan (alias) Shrinivaasan Ka (alias) Shrinivas Kannan

**CV - Detailed** 

**CV - Summarized** 

Krishna iResearch Open Source Products - not for profit open source, long term research initiative, started by self - (2003 - Present) - Profile

ACADPDRAFTS - Publications, Drafts, Education, Work related documents and Photo ID Proofs (uploaded to Sourceforge.net Project)

VIRGO - VIRtual Generic Os - Linux kernel extensions (kernel modules, system calls etc.,) for cloud

USBmd - Modified linux USB driver kernel module for USB debugging

<u>ASFER - An Inference and Classification software for Large Data Sets(at present implemented for Astronomical Datasets) - AstroInfer</u>

KING COBRA - a distributed byzantine request servicing software on cloud with queues and arbiters

Krishna iResearch DoxygenDocs - Documentation for AsFer, VIRGO, KingCobra, Acadpdrafts and USBmd open source product codebases

#### Krishna iResearch (old link updated in 2006)

## **ZODIAC DATASOFT**

IT Training for students and professionals done. Mail To: ka.shrinivaasan@gmail.com, shrinivas.kannan@gmail.com, kashrinivaasan@live.com

**Courses Training Materials and Related** 

The opensource codebases above are nonprofit academic research efforts. Dual licensed closedsource premium commercial versions partly based on above GPL products are also in development since 2010. Premium technical support is also available for above opensource codebases.

#### Research statements

**Entries at Google Scholar** 

Research statement 1 (2010)

Research statement 2 - with some proof sketches (2011)

Research statement 3 - with some proof sketches (2014)

## **Publications (2002 and 2008-2011)**

<u>Survival Index Based Transaction Timeout Manager</u> (invention disclosure done for Sun Microsystems in 2002 (now Oracle) which was not filed as a patent application)

Few Algorithms for Ascertaining Merit Of a Document

(Master's thesis) arXiv Link to Few Algorithms for Ascertaining Merit of a Document

**Presentation slides - Few Algorithms for Ascertaining Merit Of a Document** 

(<u>Published during PhD - October 2010</u>) TAC 2010 dataset evaluation - <u>Update summarization with Interview Algorithm</u> (with some updates added to the <u>above</u>) - <u>paper</u>

TAC 2010 dataset evaluation - Update summarization with Interview Algorithm (with some updates added to the above) - slides

**NIST TAC 2010 link to Update Summarization with Interview Algorithm** 

<u>Decidability of Existence and Construction of a Complement of a given</u> function

<u>arXiv Link to Decidability of Existence and Construction of a Complement of a</u> given function

<u>Circuits for Complement of a function - old version</u>

<u>Publication Drafts (TeX and PDF - 2012)</u>

**Integer Partitions and Hash functions (in Tex)** 

<u>Interview Algorithm is in IP=PSPACE (in Tex)</u>

Few Non-trivial Questions and Shell Turing Machines (in Tex)

<u>Publication Drafts (PDF) (NOTE: These are not final versions and are work in progress) (2012 - present)</u>

<u>Arrow's Theorem, Circuit For Democracy and Pseudorandom Choice and P</u> <u>Versus NP - (Draft - 17 September 2014 )</u>

<u>Document Summarization from WordNet Subgraph obtained by Recursive</u> <u>Gloss Overlap ( Draft - 25 July 2014 )</u>

<u>Integer Partitions and Hash Functions (new version - 5 April 2014 and 17 April 2014)</u>

Lower Bounds for Majority Voting and Pseudorandom choice

<u>Circuits For Computing Error Probability of Majority Voting (new version - 10 April 2014)</u>

<u>Circuits For Computing Error Probability of Majority Voting</u> (old version - March 2013)

<u>In-depth Analysis of a Variant of Majority Voting with relation to ZFC - updated draft</u> (new version - 8 February 2014)

<u>In-depth Analysis of a Variant of Majority Voting with relation to ZFC</u> (old version - 8 March 2013)

A Chaos theoretic Parallel Pseudorandom generator in RNC For Majority Voting and Pseudorandom Choice

Analysis of a Randomized Space Filling Algorithm and its Linear Program Formulation

<u>Discrete Hyperbolic Factorization - previous versions:</u>

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization</u> (Version 1)

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - with</u> <u>Interpolation Search (Version 2 - updated 25 June 2013)</u>

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - with Interpolation Search (Version 3 - updated 30 June 2013 with rough notes)</u>

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - with Interpolation Search</u> (version 4 - updated 1 July 2013 and Version 5 - updated 20 July 2013 including all handwritten notes)

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - using Rectangular Binary (or) Interpolation Search (version 12 - updated 25 August 2013)</u>

<u>Informal Notes on Derivation of Upperbound for Discrete Hyperbolic</u>
<u>Factorization with Stirling Formula - using Rectangular Binary or</u>
<u>Interpolation Search (10 September 2013)</u>

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - using Rectangular Binary (or) Interpolation Search applying Stirling Formula (Version 14 - 20 September 2013)</u>

## <u>Discrete Hyperbolic Factorization - Parallel RAM algorithm:</u>

An NC algorithm and some Sequential Search Algorithms for Discrete
Hyperbolic Polylogarithmic Sieve For Factorization using Binary or
Interpolation Search with Stirling Formula and Logarithmic Sorted Tile Merge
in PRAM model (20 November 2013) and AsFer PRAM implementation design
notes with tile id(s) (21 November 2013)

## <u>Discrete Hyperbolic Factorization - Parallel RAM algorithm - Most Recent</u> Version:

An NC algorithm and some Sequential Search Algorithms for Discrete

Hyperbolic Polylogarithmic Sieve For Factorization using Binary or

Interpolation Search with Stirling Formula and Logarithmic Sorted Tile Merge
in PRAM model - updated draft with PRAM to NC reduction and input size
details and references (25 September 2014)

<u>Miscellaneous Informal Notes (Handwritten) (Note: these are not in any structured format and might have typos and errors)</u>

<u>Informal notes - 1 : on Implication Graphs, Error probability of Majority Voting and P Versus NP Question</u>

<u>Informal notes - 2 : on Minimum Convex Hulls of Implication Graphs and Hidden Markov Model on class nodes of Concept Hypergraph</u>

<u>Informal notes - 3 : on Minimum Convex Hulls of Implication Random Growth Networks and Perfect Voter Decidability</u>

<u>Informal handwritten notes on Philosophical Analysis of Democracy Circuit</u> and Pseudorandom Choice

<u>Schur's Theorem, Restricted Partitions with distinct parts and Hash Table</u>
Collision Chains

<u>Riemann Zeta Function, Ramanujan Graphs and Ihara Zeta Function</u> - (30 August 2014)

<u>Riemann Zeta Function, Ramanujan Graphs and Ihara Zeta Function</u> - (25 October 2014)

Miscellaneous notes on Krishna iResearch Open Source products design,
Democracy Circuit, Complement Function circuit and Parallel RAM to NC
reduction for ANSV algorithm in Discrete Hyperbolic Factorization - (6
January 2015)

Krishna iResearch Open Source Products (AsFer, USBmd, VIRGO, KingCobra, Acadpdrafts) - High Level Handdrawn Architecture Diagram

<u>Publication Drafts (TeX) (NOTE: These are not final versions and are work in progress)</u>

Arrow's Theorem, Circuit For Democracy and Pseudorandom Choice and P

<u>Versus NP - (Draft - 17 September 2014 )</u>

<u>Document Summarization from WordNet Subgraph obtained by Recursive Gloss Overlap ( Draft - 25 July 2014 )</u>

<u>Integer Partitions and Hash Functions (new version - 5 April 2014 and 17 April 2014)</u>

**Lower Bounds for Majority Voting and Pseudorandom choice** 

<u>Circuits for Computing Error Probability of Majority Voting (new version - 10 April 2014)</u>

<u>Circuits For Computing Error Probability of Majority Voting</u> (old version - March 2013)

<u>In-depth Analysis of a Variant of Majority Voting with relation to ZFC - updated draft</u> (new version - 8 February 2014)

<u>In-depth Analysis of a Variant of Majority Voting with relation to ZFC</u> (old version - 8 March 2013)

A Chaos theoretic Parallel Pseudorandom generator in RNC For Majority

Voting and Pseudorandom Choice

<u>Analysis of a Randomized Space Filling Algorithm and its Linear Program</u>
Formulation

### <u>Discrete Hyperbolic Factorization - previous versions:</u>

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization</u> (Version 1)

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - with</u> <u>Interpolation Search (Version 2 - updated 25 June 2013)</u>

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - with Interpolation Search (Version 3 - updated 30 June 2013)</u>

<u>Interpolation Search</u> (Version 4 - updated 1 July 2013 and Version 5 - updated 20 July 2013 including all handwritten notes)

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - using Rectangular Binary (or) Interpolation Search (Latest - version 12 - updated 25 August 2013)</u>

<u>Discrete Hyperbolic Polylogarithmic Sieve For Integer Factorization - using Rectangular Binary (or) Interpolation Search applying Stirling Formula (20 September 2013)</u>

## <u>Discrete Hyperbolic Factorization - Parallel RAM algorithm:</u>

An NC algorithm and some Sequential Search Algorithms for Discrete

Hyperbolic Polylogarithmic Sieve For Factorization using Binary or

Interpolation Search with Stirling Formula and Logarithmic Sorted Tile Merge
in PRAM model (20 November 2013)

<u>Discrete Hyperbolic Factorization - Parallel RAM algorithm - Most Recent</u>

#### **Version:**

An NC algorithm and some Sequential Search Algorithms for Discrete
Hyperbolic Polylogarithmic Sieve For Factorization using Binary or
Interpolation Search with Stirling Formula and Logarithmic Sorted Tile Merge
in PRAM model - updated draft with PRAM to NC reduction and input size
details and references (25 September 2014)

#### Nostalgic Personal Memorabilia and selected photos

<u>At Mahabalipuram - September 2012</u>

**View of SIPCOT TCS from CMI in twilight - August 2010** 

**CMI Alumnus page** 

COBRA (a not-so-naive cloud precursor implemented during BE in 1999 on CORBA)

SunMicrosystems group photo (taken around year 2000)

Past photos - 1

Past photos - 2

Past photos - 3

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