

Anand Babu.N.B

My areas of research interest are Extremal Combinatorics, Graph Theory, Probabilistic problems on graphs and hypergraphs and application towards Theoretical computer science.

Personal

Born on 26 October, 1989.

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Education

- 2015–2022 **Ph.D. Computer Science & Engg.**, *IIT Bombay, India*,
Title: **Covering and partitioning hypergraphs**(Thesis submitted),
Advisor: Prof. Sundar Vishwanathan
CGPA - 8.93/10
- 2012–2014 **M.Tech. Computer Science & Engg.**, *IIT Kanpur, India*,
Title: **Protein Folding Problem on a Grid using Randomized Metropolis Algorithm**,
Advisor: Prof. Somenath Biswas and Prof. Piyush Kurur
CGPA - 8.0/10
- 2007–2011 **B.Tech. Computer Science & Engg.**, *University of Calicut, India*,
Government Engineering College Thrissur
72.6%
- 2007 **Plus Two**, *Computer Science*, Bhavans Vidya Mandir, Irinjalakuda
89.0%
- 2005 **Tenth**, Don Bosco HS School, Irinjalakuda
93.4%

Research Experience

- 2014–2015 **Junior Research Fellow**, *Institute of Mathematical Science, Chennai (IMSc Chennai), India*
- 2014 **Visiting student**, *Microsoft Research Labs*, Bangalore, India
Advisor: Prof. Nisheeth Vishnoi

Work Experience

- 2011–2012 **Developer**, *Xurmo Technologies*, Bangalore

Publications

- **Bounds for the Graham-Pollak theorem for hypergraphs.**
Anand Babu and Sundar Vishwanathan
Discrete Mathematics 342(11): 3177-3181 (2019)
- **Multicovering hypergraphs.**
Anand Babu and Sundar Vishwanathan
Discrete Mathematics 344(6): 112386 (2021)
- **Improved bounds for covering hypergraphs.**
Anand Babu and Sundar Vishwanathan
arxiv preprint - www.arxiv.org/abs/2208.12589
SIAM Journal on Discrete Mathematics (under review)

Talks

Graph Coloring and Probabilistic Methods.

Theory Seminar(2016), IIT Bombay.

Analysis of randomized algorithm for $(\Delta + 1)$ -coloring.

Theory Seminar(2017), IIT Bombay.

Muller Schupp Determinization of Buchi Automata.

Seminar Series(2014), IIT Kanpur.

In-Picture Search Algorithm.

Seminar (2011) Govt. Engg. College Thrissur.

Projects

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|------------|--|
| Title | Online Music Recognition Application. |
| Supervisor | Prof. T.V.Prabhakar, IIT Kanpur |
| Title | Pub Online. |
| Supervisor | Prof. T.V.Prabhakar, IIT Kanpur |
| Title | Remote Computing Software. |
| Supervisor | Prof. P.V.Savyan, Govt. Engg. College Thrissur |

Played Role as

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|--------|---|
| Course | Teaching Assistant for CS 779 (Extremal Combinatorics)-Prof. Sundar Vishwanathan and Prof. Mrinal Kumar, IIT Bombay. |
| Course | Teaching Assistant for CS 601 (Algorithms and Complexity) -Prof. Sundar Vishwanathan, IIT Bombay |

- Course Teaching Assistant for **CS 604 (Combinatorics)**-Prof.Sundar Vishwanathan, IIT Bombay.
- Course Teaching Assistant for **CS 310 (Theory of Computation)**-Prof. Nutan Limaye, IIT Bombay.
- Course Teaching Assistant for **CS 340 (Theory of Computation)**- Prof. Ragnath Tiwari, IIT Kanpur.
- Course Teaching Assistant for **CS 719 (Topics in Mathematical Foundations of Formal Verification)**- Prof. Supratik Chakraborty, IIT Bombay.
- Course Teaching Assistant for **CS 747 (Foundations of Intelligent and Learning Agents)**-Prof. Shivaram Kalyanakrishnan, IIT Bombay.
- Course Teaching Assistant for **ESC 101 (Programming in C)**- Prof. Sumit Ganguly, IIT Kanpur.

Attended Events

FSTTCS 2019, RISC 2017, RISC 2019, Mysore Park Theory Workshop 2016.

Awards

- Awarded Visvesvaraya Ph.D. Fellowship 2016 by Ministry of Electronics and Information Technology, Government of India.
- All India Rank of 325 in GATE 2012 -Top 0.002 percentile.
- JEST-2012 National Level Exam-Among Top 29 at National level (Institute of Mathematical Sciences, Chennai).
- TATA Institute of Fundamental Research GS 2012-Among Top 31 at National level(TIFR).
- Offered a position in Algorithm Group VMWare Bangalore-Campus Drive 2014-IIT Kanpur.
- Offered a direct admission to Chennai Mathematical Institute (CMI).
- C V RAMAN Essay Competition by Dept. of Education Kerala - 14th rank in State.
- 16th National Talent Search Exam 2001 - 59th rank at National level.
- Participated in Yahoo HACK U, IIT Kanpur 2012.