

Eklavya Sharma

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INTERESTS

- Algorithms
- Approximation algorithms
- Online algorithms

EDUCATION

IISC BANGALORE

M.TECH. (RESEARCH) IN CS

July 2019 – Present

Bangalore, India

GPA: 9.7 / 10.0

BITS PILANI

BE IN COMPUTER SCIENCE

August 2014 – June 2018

Pilani, Rajasthan, India

GPA: 9.14 / 10.00

LINKS

Github: [sharmaeklavya2](#)

LinkedIn: [sharmaeklavya2](#)

Codeforces: [eku](#)

ICPCID: [5CN1FMJ0JIDP](#)

SKILLS

LaTeX, Python, C/C++, Java, Bash, HTML, CSS, JavaScript.

COURSEWORK

IISC BANGALORE

Approximation Algorithms,

Design and Analysis of Algorithms,

Computational Methods of Optimization,

Cryptography

ACHIEVEMENTS

BITS-Pilani Merit Scholarship

(GPA within top 2% in three semesters)

GATE India rank 86

ACM-ICPC regional ranks:

- Amritapuri 2017: 29/250.
- Amritapuri 2016: 66/450.
- Kharagpur 2016: 30/70.
- Amritapuri 2015: 88/250.

PROJECTS

ALGORITHMS FOR PACKING PROBLEMS Jan 2020 – Present

Supervisor: Prof. Arindam Khan, IISc Bangalore.

- Designed algorithms for geometric bin packing and its variants.
- Worked on the online knapsack problem in the random-order model.

MITIGATING DNS-BASED DOS ATTACKS Sept 2017 – Dec 2017

Supervisor: Prof. Vishal Gupta, BITS Pilani.

- Devised a mechanism for mitigating DNS amplification attacks.
- Presented this work at ICACCI in Sept 2018.

PAPERS

- Tight approximation algorithms for geometric bin packing with skewed items (with Arindam Khan). [arXiv:2105.02827](#).
- Harmonic algorithms for packing d -dimensional cuboids into bins. [arXiv:2011.10963](#).
- Geometry meets vectors: approximation algorithms for multidimensional packing (with Arindam Khan and KVN Sreenivas, unpublished).
- Approximation algorithms for generalized multidimensional knapsack (with Arindam Khan and KVN Sreenivas). [arXiv:2102.05854](#).
- An approximation algorithm for covering linear programs and its application to bin-packing. [arXiv:2011.11268](#).
- Analysis of the harmonic function used in bin-packing. [arXiv:2011.11618](#).
- Mitigating DNS amplification attacks using a set of geographically distributed SDN routers. In ICACCI-2018, Bangalore (with Vishal Gupta). [doi:10.1109/ICACCI.2018.8554459](#).

WORK EXPERIENCE

CSA, IISC BANGALORE | TEACHING ASSISTANT

October 2020 – Jan 2021

Teaching assistant for the course 'Design and Analysis of Algorithms'.

MEDIA.NET | PLATFORM ENGINEER

August 2018 – July 2019 | Bangalore, India

Worked on media.net's real-time bidder for online advertisement.

AMERICAN EXPRESS | INTERN

Jan 2018 – June 2018 | Gurgaon, India

Trained a neural network to predict credit-card defaulting. The data was oddly-structured, so a custom architecture was devised. Its performance was at par with the production model, which was tuned over many years.

DIRECTI | INTERN

May 2017 – July 2017 | Mumbai, India

Made Directi's news article classification algorithm recognize more categories.

ZULIP | GOOGLE SUMMER OF CODE STUDENT

May 2016 – Aug 2016

Ported Zulip's code to Python 3 + mypy.