Aayush Kumar

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Employment History

2024 – Present **Research Fellow,** PROSE team, Microsoft, India.
2023 **Quantitative Research Intern,** Quadeye Securities LLP, India.

Education

2020 – 2024 **B.Tech., IIT Kanpur, India** Computer Science and Engineering.
Cumulative Grade Point Average: *9.83/10*

2023 **Semester Exchange, EPFL, Switzerland** Computer Science.
Cumulative Grade Point Average: *5.4/6*

2017 – 2020 **High School, NPS HSR, Bangalore, India**.
Central Board of Secondary Education (CBSE) curriculum, studying the sciences with computer science.

Publications

Pre-prints

1. **A. Kumar**, D. Prol, A. Alipour, and S. S. Ragavan, *To google or to chatgpt? a comparison of cs2 students' information gathering approaches and outcomes*, 2025. arXiv: 2501.11935 [cs.HC]. URL: https://arxiv.org/abs/2501.11935.

2. J. T. Liang, **A. Kumar**, Y. Bajpai, S. Gulwani, V. Le, C. Parnin, A. Radhakrishna, A. Tiwari, E. Murphy-Hill, and G. Soares, *Tabletalk: Scaffolding spreadsheet development with a language agent*, 2025. arXiv: 2502.09787 [cs.SE]. URL: https://arxiv.org/abs/2502.09787.

Conference Papers

1. H. Goel, **A. Kumar**, and S. S. Ragavan, "End-user programming is weird: How, why and what to do about it," in *2023 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, 2023, pp. 41–50. DOI: 10.1109/VL-HCC57772.2023.00013.

2. M. Amoozadeh, D. Daniels, D. Nam, **A. Kumar**, S. Chen, M. Hilton, S. Srinivasa Ragavan, and M. A. Alipour, "Trust in generative ai among students: An exploratory study," in *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 1*, ser. SIGCSE 2024, Portland, OR, USA: Association for Computing Machinery, 2024, pp. 67–73, ISBN: 9798400704239. DOI: 10.1145/3626252.3630842.

Conference Posters

1. M. Amoozadeh, D. Daniels, S. Chen, D. Nam, **A. Kumar**, M. Hilton, M. A. Alipour, and S. S. Ragavan, "Towards characterizing trust in generative artificial intelligence among students," in *Proceedings of the 2023 ACM Conference on International Computing Education Research - Volume 2*, ser. ICER '23, Chicago, IL, USA: Association for Computing Machinery, 2023, pp. 3–4, ISBN: 9781450399753. DOI: 10.1145/3568812.3603469.

2. H. Goel, **A. Kumar**, and S. S. Ragavan, "Poster: End-user programming is weird," in *2023 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, 2023, pp. 274–275. DOI: 10.1109/VL-HCC57772.2023.00051.

Selected Projects

1. **Intersectionality in Oversampling on Social Attributes**, Semester Project, ML4ED Lab, EPFL, 2023, Built on the paper by Cock et al. to analyze the impact of intersectionality on different oversampling strategies for a behavioural predictive model in education.
2. **SoulFull: A Companion App for Binge Eating**, Course Project, EPFL, 2023, Designed a high-fidelity prototype for an app that supports people struggling with binge eating by applying fundamental interaction design principles. URL: `https://www.figma.com/file/OLqV3BIDvyHij9iheE4esL/`.
3. **CoOpt: Comparing Optimisers**, Course Project, IIT Kanpur, 2023, Co-wrote a research paper that compared different ML optimisers on image classification and regression tasks. URL: `https://github.com/Aeyush10/CoOptPaper`.
4. **A Whole New World: Infinite Procedurally Generated Terrain**, Course Project, EPFL, 2023, Designed and created a procedurally generated visualisation of infinitely extending mountainous terrain with dynamic camera movements. URL: `https://github.com/Aeyush10/CS341_Graphics_Project`.
5. **DigiCampus**, Course Project, IIT Kanpur, 2022, Worked with a team to create a web application to simplify entry-exit logistics for students and faculty across college campus. URL: `https://github.com/ananya704/CS253`.
6. **Parallel Optimised View Synthesis**, Course Project, EPFL, 2023, Researched and applied zero-order methods to locally maximise entropy of 2D images (visualisations) of a 3D dataset. Developed ideas, wrote code, and created a presentation for methods to efficiently parallelise the visualisations. URL: `https://github.com/PrateekSogra/CS677-Parallel-optimised-View-Synthesis`.
7. **Bandersnatch: A C++ CUI Game**, Self Project, EPFL, 2021, An interactive game made in C++ with a narrative that branches out based on user performance in implemented mini-games. URL: `https://github.com/Aeyush10/Bandersnatch_for_fun`.

Skills

Programming	C/C++, Python, R, TypeScript, JavaScript, HTML, CSS, Ruby, TensorFlow, WebGL (GLSL), Java.
Empirical Studies	Experiment Design, Survey Design, Qualitative Coding, Study Conduction, Mixed Methods Data Analysis
Utilities	Jupyter/Google Colab, MySQL, Qualtrics, Git, Bash, LaTeX.
Design Tools	Figma, Canva, Bootstrap, iMovie.

Miscellaneous Experience

Awards and Achievements

2024 **Research Proficiency Medal** IIT Kanpur, India.
Awarded for best undergraduate research project by a graduating student in the Computer Science and Engineering department.

2022 **Academic Excellence Award** IIT Kanpur, India.

2021 **Dr. Prateek Mishra Memorial Scholarship Awardee**, IIT Kanpur, India.

Academic Excellence Award IIT Kanpur, India.

Miscellaneous Experience (continued)

2020
- **All India Rank 976**, Joint Entrance Examination - Advanced, India.
- **All India Rank 4128**, Joint Entrance Examination - Mains, India.

Teaching Experience

Fall 2023
- **Tutor, ESC111: Fundamentals of Computing**, CSE Department, IIT Kanpur, India.

Fall 2022
- **Volunteer**, Prayas (Student-run Community Service Organisation), IIT Kanpur, India.

Extracurriculars

2022 – 2023
- **Video Team Head**, Vox Populi (Student Journalism Body), IIT Kanpur, India.

2021 - 2022
- **Secretary**, English Literary Society, IIT Kanpur, India.
- **Secretary**, Film Club, IIT Kanpur, India.