Department of Computer Science & Engineering

VISION

To be a distinguished academic and research Department in the field of Computer Science and Engineering for enabling students to be highly competent professionals to meet global challenges.

MISSION

1. Impart quality education in Computer Science and Engineering through state-of-the art learning environment and committed faculty with research expertise.
2. Train students to become the most sought-after professionals in the field of Information Technology by providing them strong theoretical foundation with adequate practical training.
3. Provide a conducive environment for faculty and students to carry out research and innovation in collaboration with reputed research institutes and industry.
4. Inculcate human values and professional ethics among students to enable them to become good citizens and serve the society.

PROGRAM EDUCATIONAL OBJECTIVES

1. Graduates shall possess essential skills to adapt to emerging technologies & environment to solve real world problems.
2. Graduates shall have required technical competency for pursuing higher studies & Research.
3. Graduates shall have essential communication and managerial skills to become competent professionals and entrepreneurs.

PROGRAM SPECIFIC OUTCOMES

1. Apply the principles of Basic Engineering Science to acquire the hardware and software aspects of Computer Science.
2. Solve the real-world problems using modeling for a specific Computer system and architecture
3. Ability to design and develop applications using various software and hardware tools.
4. Exhibit the practical competence using broad range of programming languages.

FROM THE EDITOR'S DESK

I am happy to share that the Department of Computer Science and Engineering is releasing the Volume -8, Issue-1 newsletter. The newsletter highlighted the achievements of students and faculty with respect to academics, research & Innovation, and societal activities. This newsletter will motivate the faculty and students for sharing their creativity and new ideas with the world and will help in their overall development. I take this opportunity to congratulate editor for their great effort to make this newsletter as a reality.

Dr P. B. Mallikrajuna

Professor & Head

Department of Computer Science & Engg.

DEPARTMENT ACTIVITIES

Faculty development program (FDP) has been considered as a stand-alone educational pedagogy in fostering knowledge and professional skills of faculty in teaching and research. In this direction the department conducted FDP to strengthen the professional development of the faculty members and to enhance the required skills in the field of computer science & engineering.

AICTE Training and Learning (ATAL) Academy sponsored one week Faculty Development Program titled "Internet of Things (IoT) and Drone Technology Applications in Digital Agriculture" in association with University of Agricultural Sciences, Dharwad from 11-12-2023 to 16-12-2023.

Student Development program on **"Cyber Security for All"** on 2nd March 2024

Two Days workshop on **"Deep Learning Techniques "** on 17th and 24th Feb 2024

Student development Program (SDP) focuses on the enhancement of the skills of the students apart from regular academic development. It aims at increasing levels of understanding of the concepts and practical implementation of knowledge along with their research aptitude. In this direction the department conducted few SDPs to strengthen the academic development of the students to enhance the required skills in the field of computer science & engineering.

Codeathon: Coding Contest on "Data Structures and its applications" on 29th Feb 2024

SDP on "Database Management Tools" on 8th Feb 2024

Tech Connect Program on " Database Management Systems" on 24th and 25th Jan 2024

ALUMNI INITIATIVES

Placement Initiative:Invited talk on "State of Industry-Early 2024" on 16th Feb 2024

SDP on "Placement Skills: Connecting Dots " on 3rd Feb 2024

INDUSTRY VISIT

Industrial visits provide the students and faculty with an opportunity to learn practically through interaction, working methods and employment practices.

Industrial Visit to M/s Escort Kubota Limited, Bengaluru on 15th December 2023

OUTREACH   PROGRAMS

An outreach program aims to help, uplift, and support those who are deprived of certain services and rights. It involves giving learning, social planning, health support, and other projects for their welfare. Outreach Programs through activity points helps the students to face real-time life challenges, provide the opportunity to gather data, analyse data, propose solutions and implement solutions. Also, it paves the way for personal development and creative engineers who are proud volunteers with a sense of achievement and ready to take up projects having a social impact.

STAFF ACCOMPLISHMENTS

FUNDED PROJECTS

1. Dr. Pradeep H K received IBM Watsonx Generative AI Faculty Award for an amount of $10,000.00 USD by IBM, Dallas,TX,United States
2. Funded Student Projects from KSCST

Title of the Project	Team members	Faculty Name	Grant Received(in Rs)
Industrial Pump anomaly detection for Predictive maintenance using machine learning techniques	Manthan Prasad Nishanth A R Rahul R	Ms. Shanthala K V	3000/-
AI based decision support system for predicting Drone health status.	Rahul K R Pradeep Hiremath Prashanth Santhosh M C	Dr. Manjunath B T Dr. Sharana Basavana Gowda	4500/-
Augmented reality system for Automative assembly process and maintenenace	Adya Pallad Amrit Baranwal Ananya P Anusha R Mulge	Dr.Vikyath K B	3500/-
A summarization tool for youtube video Transcript	Annesha Krishna Geetha S Akash Reddy V	Dr. Naidila Sadashiv	4000/-

Ph.D AWARDS

1. Mr. Abhilash completed his Ph.D research work titled **"Ontology-Based Semantic Interestingness in Healthcare Data"** under Indian Institute of Information Technology , Dharwad .

2. Mr. Vikyath K B completed his Ph.D research work titled **"Multi Constraint Based Optimal Cluster Head Selection in Wireless Sensor Networks"** under VTU.

PUBLICATIONS

Sl. No.	Name of the Faculty	Title of the Paper	Details of the Journal
1	Dr.Prabhudev Jagadeesh	An Explainable and Optimized Network Intrusion Detection Model using Deep Learning	International Journal of Advanced Computer Science and Applications(IJACSA), jan 24, https://dx.doi.org/10.14569/IJACSA.2024.0150145
2	Dr. Pavithra G S	An efficient adaptive reconfigurable routing protocol for optimized data packet distribution	International Journal of Electrical and Computer Engineering (IJECE), p-ISSN 2088-8708, e-ISSN 2722-2578 ,feb 24

		in network on chips	
3	Mrs.Shweta S Kaddi	Ensemble learning based health care claim fraud detection in an imbalance data environment	Indonesian Journal of Electrical Engineering and Computer Science, Vol.32, No.3, December2023, pp. 1686~1694ISSN: 2502-4752, DOI: 10.11591/ijeecs.v32.i3.pp1686-1694 dec 23
4	Dr.Prabhudev Jagadeesh	Enhancing data security in SAP-enabled healthcare systems with cryptography and digital signatures using blockchain technology	International Journal of Systematic Innovation, Vol.8 https://doi.org/10.6977/IJoSI.202403_8(1).0004 mar 2024
5	Dr. Niranjan C Kundur	Pneumonia Detection in Chest X-Rays using Transfer Learning and TPUs	Engineering, Technology & Applied Science Research, 2023,Vol. 13, No. 5, 2023, 11878-11883 oct 23
6	Mrs.Bhavani B H Dr Naveen N C	An approach to determine and categorize mental health using machine learning and deep learning models.	Engineering Technology and Applied Science Research{ETASR), volume:14, Issue:2 ISSN/eISSN: 2241-4487/1792-8036, https://doi.org/10.48084/etasr.7162

PATENTS

Dr Pavitra G S Published a patent titled "**Auto Pilot Self Driving Car Using Embedded Artificial Intelligence**" on 05/01/2024 .

SESSION CHAIR AND INVITED TALKS

1. Dr Naveen N C served as a Session Chair at the **12th International Conference on Recent Challenges in Engineering and Technology (ICRCET-2024)** held on 23rd and 24th April 2024.
2. Dr. Prabhudev Jagadeesh delivered a lecture on "Ethical challenges in AI" to faculty members of JSSATE on 1st March 2024.
3. Dr Naveen N C delivered a talk on **"Emerging Trends in IT Technology for Managers"** at JSSATEB, on 17th Feb 2024 organized by the department of MBA.
4. Dr Naveen N C was invited as a Speaker to deliver a session on **"Student Mentoring"** at JSS Polytechnic for Women, Mysuru organized by JSSMVP.
5. Dr Naveen N C Served as a Reviewer for the **First IEEE International Conference on Communications and Computer Science-2024 (InCCCS-2024)** held during 22nd– 24th May, 2024.
6. Dr Naveen N C served as a Reviewer for **International Conference for Women in Innovation, Technology and Entrepreneurship** ICWITE held at Bengaluru, India between 16th – 17th February 2024.
7. Dr Abhilash C B was invited as a resource person to deliver a session on **"Applications of AI in Aerospace and Defence Manufacturing"** at HAL, Hyderabad Division from 2nd to 4th Nov 2023.
8. Mrs Snehalatha N was invited as a resource person to deliver a session on **" IP Networking Protocal & Concepts"** at Bharat Electronics Limited , Bangalore on 12th Dec 2023.
9. Mrs Impana K P was invited as a resource person to deliver a session on " **Cloud Security"** at Bharat Electronics Limited, Bangalore on 13th ,14th ,26th and 27th Dec 2023
10. Dr Sreenatha M was invited as a resource person for FDP on "**Data Analytics**" organized by the department of Mechanical Engineering ,JSSATEB on 26th March 2024.
11. Dr Pavitra G S served as a Reviewer for **International Conference for Emerging Technologies in computer science for Interdisciplinary applications(ICETCS) 2024** held at BMSCE Bengaluru, India between 22nd– 23rd April 2024.

STUDENT ACCOMPLISHMENTS

PLACEMENTS

Batch: 2023-24

Sl No	USN	Name of the Student	Name of the Company	Package (in Lakhs)
1	1JS20CS001	Aayush Verma	UST,Harman	4.25
2	1JS20CS002	Abhay Kumar	HashedIn Technologies	8.1
3	1JS20CS004	Abhinav Akarsh	ITC Infotech	4.25
4	1JS20CS014	Adya Palled	UST	4.25
5	1JS20CS015	Akanksh Saya	Betsol	12
6	1JS20CS022	Aman Kumar Singh	Harman	7
7	1JS20CS026	Amrit Baranwal	Accenture	4.5
8	1JS20CS029	Aneesha Krishna Maiya U	Sasken	5
9	1JS20CS030	ANIKET TIWARI	HashedIn Technologies	8.1
10	1JS20CS034	Anvitha Bhaskar	ITC Infotech	4.25
11	1JS20CS039	Ashutosh Chauhan	ITC Infotech	4.25
12	1JS20CS055	Darshan PS	Harman	7
13	1JS20CS060	Druthi Chandrashekaran	ITC Infotech	4.25
14	1JS20CS064	Guruprasad Limbikai	Fintellix	5.5
15	1JS20CS067	Hari Shankar Rai	Sasken	5
16	1JS20CS068	Harsh Kumar Mishra	Kickdrum	16
17	1JS20CS073	Hitesh Reddy Rl	Harman	7
18	1JS20CS079	Khushi Rani	Kickdrum	16
19	1JS20CS088	Manthan Prasad	Harman	7
20	1JS20CS089	Mayur M S	Sasken	5
21	1JS20CS094	N Hitha Shri	Bosch	4.5
22	1JS20CS102	Nishanth A R	ITC Infotech	4.25
23	1JS20CS110	Prajwal Surendra	HashedIn Technologies	8.1
24	1JS20CS111	Prakyat	ITC Infotech	4.25
25	1JS20CS116	Prerana N S	TCS	9
26	1JS20CS119	Rahul K R	Comviva	3.75
27	1JS20CS122	Rahul Vasudev	Harman	7
28	1JS20CS130	Rehan Ayub Kittur	Harman	7
29	1JS20CS135	Sachin Kumar	Harman	7
30	1JS20CS136	Sachin Kumar	Harman	7
31	1JS20CS138	Sai Abhiram S	ITC Infotech	4.25
32	1JS20CS146	Shamitha A S	ITC Infotech	4.25
33	1JS20CS152	Shivam Kumar	Harman	7
34	1JS20CS154	Shravanth Reddy M R	ITC Infotech	4.25
35	1JS20CS167	Sudarshana M G	UST	4.25
36	1JS20CS168	Supriya P Nadgir	ITC Infotech	4.25
37	1JS20CS172	Thanusha R	ITC Infotech	4.25
38	1JS20CS173	Thejas I M	UST	4.25
39	1JS20CS177	Udith R	UST	4.25
40	1JS20CS181	Vinamratha R Jagirdar	ITC Infotech	4.25
41	1JS20CS188	Yashaswini H V	UST	4.25
42	1JS20CS190	Zoya Haider	ITC Infotech	4.25

INTERNSHIPS

Sl.No.	USN	Name of the Student	Name of the Comapany	Stipend per month (in Rupees)
1	1JS20CS005	Abhinav Tripathi	Suggaa Ventures Pvt Ltd	25000.00
2	1JS20CS107	Parnika talwar	Jnanamarga tech	16000.00
3	1JS20CS086	M Varsha	Dhiman's	12000.00
4	1JS20CS101	Nishant Prabhat	Suggaa Ventures	36000.00
5	1JS20CS002	Abhay Kumar	AulaCube Technologies Private Limited	7200.00
6	1JS20CS068	Harsh Mishra	Kickdrum India	35000.00
7	1JS20CS079	Khushi Rani	Kickdrum	35000.00
8	1JS20CS111	Prakyat	Acinonyx technologies private limited	12106.00
9	1JS20CS141	Sanjana G N	E-mudhra pvt limited	10,000.00
10	1JS20CS170	Tarun	JMT dba Gnosis learning	40000.00
11	1JS20CS114	Praveen kumar	Suggaa Ventures Pvt Ltd	15000.00
12	1JS20CS117	Priyanshu Dixit	Suggaa Ventures	40000.00
13	1JS20CS132	Rishav Kumar	FindInbox Private Limited	5000.00
14	1JS20CS151	Shilpa Gupta	Findinbox private limited	5000.00
15	1JS20CS157	Shreyas P	Seminarroom	10000.00
16	1JS20CS178	Vansh Singh	Corpus Technology-Development	10000.00
17	1JS20CS185	Vivek Soni	Backend AI development ,Corpus Technology	10000.00
18	1JS20CS022	Aman Kumar Singh	Param.ai, Place : Hyderabad	15,000.00
19	1JS20CS136	Sachin Kumar	Software Development Intern, NFTVerse	10000.00
20	1JS20CS145	Satyam Raj	Suggaa Ventures Pvt Ltd	9000.00
21	1JS20CS099	Navneet Kumar	Suggaa Ventures Pvt Ltd	12000.00
22	1JS20CS165	Srivatsa Bharadwaj	Magna Electronics	15000.00
23	1JS20CS185	Vivek soni	Magna Electronics	15000.00

ACADEMIC EXCELLENCE

JSS Mahavidyapeetha
JSSATE JSS Academy of Technical Education
BENGALURU Bengaluru

Department of Computer Science and Engineering

Congratulates Top Performers of the VII Semester

BHAGYASHRI SHETTY H
1JS20CS043
91.0%

SHREEYA R HEGDE
1JS20CS155
90.3%

THANUSHA R
1JS20CS172
88.6%

SHAMITHA A S
1JS20CS146
88.4%

SADHVI ADIGA V
1JS20CS137
88.4%

SNEHA M
1JS20CS161
88.3%

CHARUDISHA A ASHJAY
1JS20CS049
88.0%

SAI SMARAN KS
1JS20CS139
87.1%

SANJAY N
1JS20CS143
87.0%

YASHASWINI H V
1JS20CS188
86.9%

Best Wishes
Management, Principal & Staff
Department of Computer Science and Engineering
www.jssateb.ac.in

JSS Mahavidyapeetha
JSSATE JSS Academy of Technical Education
BENGALURU Bengaluru

Department of Computer Science and Engineering

Congratulates Top Performers of the I Semester 2023-24

SANIYA PATIL
1JS23CS146
89.13

GANAVI M C
1JS23CS053
89.00

vindhya h kyathsandra
1JS23CS186
88.75

SHREYA B S
1JS23CS161
87.63

IMPANA P
1JS23CS064
87.25

CHINDANURU SANJANA SREE
1JS23CS034
86.88

DHANUSH A S
1JS23CS046
86.13%

SRUSHTI S
1JS23CS172
85.75

HARSHITHA S
1JS23CS061
85.38

Amulya M
1JS23CS008
85.25

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Sl. No.	Name of the Authors	Title of the Paper	Details of the Journal
1	Impana K P Akanksh Saya Bhagyashri Shetty H Chagi Manaswini Charudisha A. Ashjay	Survey on Machine Learning Models to Analyze Urinary Tract Infection Data	International Research Journal on Advanced Engineering and Management (IRJAEM) Vol. 2 No. 04 (2024): IRJAEM Vol.02 Issue 04- [April
2	Badal Kumar Aman Kumar Singh Ashutosh Chauhan Chiranthana B U Impana K P	Survey on Machine Learning Algorithms for Mental Health Analysis and Prediction	International Conference on MultiDIsciplinary Research and Innovation (ICMRI)
3	Shreyas Srinivas S Yashwanth B Sushanth R	Sleep Disorders and Heart Disease: A Machine Learning Exploration	International Conference on Health Informatics, Intelligent Systems and Networking Technologies, MIT Manipal
4	Sinchana H R Shreya C S Shreya Mannapur	Exploring Sleep Quality: Influential Factors and Implications	International Conference on Health Informatics, Intelligent Systems and Networking Technologies, MIT Manipal

STUDENT ACHIEVEMENTS

1. Shreyas P, 1JS20CS157 particiapted in ETHIndia Hackathon, Bengaluru, Karnataka from 08/12/2023 - 10/12/2023.

2. Anusha N , 1JS22CS402 participated in Smart India hackathon 2023 held in Greater Noida Uttar Pradesh from 18/12/2023 and 19/12/2023

3. Hithashree S , 1JS22CS066 participted in National level Hackathon, Siddaganga institute of technology, Tumkur, Karnataka on 23/12/2023

4. Varun V Kudli, 1JS22CS180 participted in Encryptcon 24-Hr Hackathon, IIT Madras, Chennai on 04/01/2024

Claude AI

Claude is a sophisticated language model created by Anthropic, an artificial intelligence research firm. It relies on extensive transformer models like GPT-3, but incorporates multiple innovations to enhance its performance and alignment with human values.

The creation of Claude included a unique training method known as "constitutional AI" designed to give the model a specific set of rules, principles, and goals that influence its actions. This encompasses values such as being truthful, wanting to assist without causing harm, and grasping ethical principles. The objective is for Claude to behave in a manner that helps humanity and is consistent with human values, even in scenarios not specifically addressed in its training set.
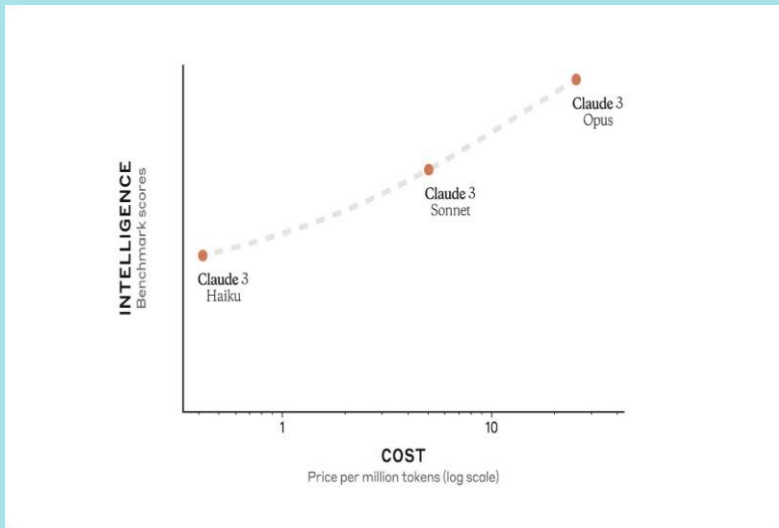
Beneath the surface, Claude is a massive neural network that has been trained on an extensive collection of text data obtained from the internet. Nevertheless, Claude's training method differs from conventional language models by utilizing reinforcement learning strategies to incentivize outputs that are beneficial, truthful, and in accordance with its fundamental principles.

Claude excels at holding open-ended conversations, utilizing its extensive knowledge to give detailed and sophisticated answers. It is capable of managing complicated questions, offering thorough examinations, and aiding in activities such as programming and artistic writing.

Claude is also designed to be transparent about its capabilities and limitations. It is upfront about being an AI system and will not try to deceive users or pass itself off as human. It is also able to acknowledge when it is uncertain or lacks the knowledge to provide a satisfactory answer.

Anthropic has developed several variants of Claude, each with slightly different capabilities and specializations. For example, there are versions optimized for tasks like code generation, mathematical reasoning, or creative writing. However, the underlying principles and commitment to beneficial AI remain consistent across all variants.Overall, Claude represents a significant step forward in the development of safe and aligned artificial intelligence systems, combining cutting-edge language modelling capabilities with a principled approach to instilling beneficial behaviour.

Vision Benchmarks: (almost on par with other models)

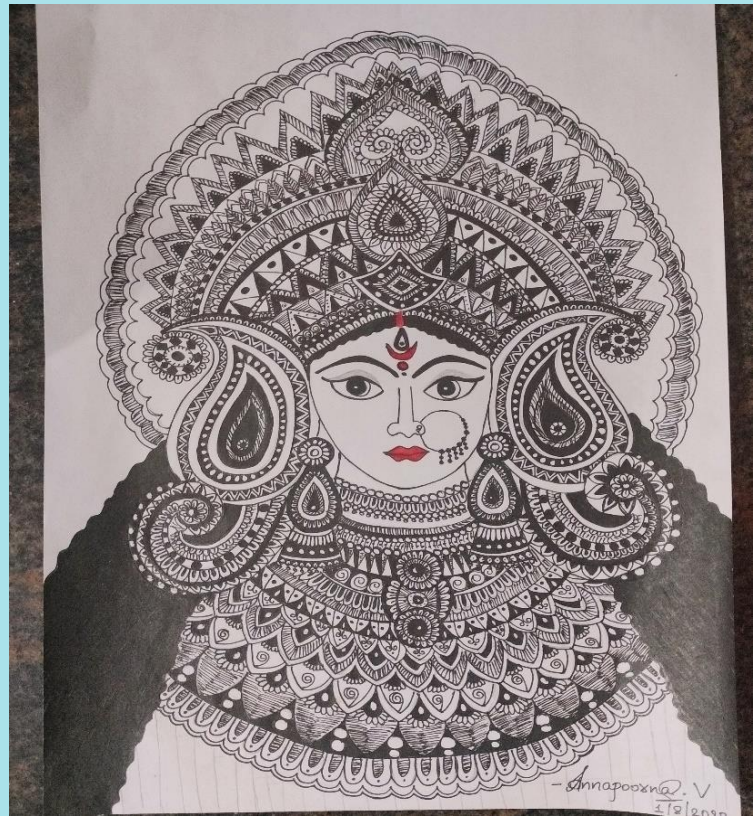|	Claude 3 Opus	Claude 3 Sonnet	Claude 3 Haiku	GPT-4V	Gemini 1.0 Ultra	Gemini 1.0 Pro
Math & reasoning MMMU (val)	59.4%	53.1%	50.2%	56.8%	59.4%	47.9%
Document visual Q&A ANLS score, test	89.3%	89.5%	88.8%	88.4%	90.9%	88.1%
Math MathVista (testmini)	50.5% CoT	47.9% CoT	46.4% CoT	49.9%	53.0%	45.2%
Science diagrams AI2D, test	88.1%	88.7%	86.7%	78.2%	79.5%	73.9%
Chart Q&A Relaxed accuracy (test)	80.8% 0-shot CoT	81.1% 0-shot CoT	81.7% 0-shot CoT	78.5% 4-shot CoT	80.8%	74.1%

Intelligence Benchmarks:

	Claude 3 Opus	Claude 3 Sonnet	Claude 3 Haiku	GPT-4	GPT-3.5	Gemini 1.0 Ultra	Gemini 1.0 Pro
Undergraduate level knowledge MMLU	86.8% 5 shot	79.0% 5-shot	75.2% 5-shot	86.4% 5-shot	70.0% 5-shot	83.7% 5-shot	71.8% 5-shot
Graduate level reasoning GPQA, Diamond	50.4% 0-shot CoT	40.4% 0-shot CoT	33.3% 0-shot CoT	35.7% 0-shot CoT	28.1% 0-shot CoT	—	—
Grade school math GSM8K	95.0% 0-shot CoT	92.3% 0-shot CoT	88.9% 0-shot CoT	92.0% 5-shot CoT	57.1% 5-shot	94.4% Maj1@32	86.5% Maj1@32
Math problem-solving MATH	60.1% 0-shot CoT	43.1% 0-shot CoT	38.9% 0-shot CoT	52.9% 4-shot	34.1% 4-shot	53.2% 4-shot	32.6% 4-shot
Multilingual math MGSM	90.7% 0-shot	83.5% 0-shot	75.1% 0-shot	74.5% 8-shot	—	79.0% 8-shot	63.5% 8-shot
Code HumanEval	84.9% 0-shot	73.0% 0-shot	75.9% 0-shot	67.0% 0-shot	48.1% 0-shot	74.4% 0-shot	67.7% 0-shot
Reasoning over text DROP, F1 score	83.1 3-shot	78.9 3-shot	78.4 3-shot	80.9 3-shot	64.1 3-shot	82.4 Variable shots	74.1 Variable shots
Mixed evaluations BIG-Bench-Hard	86.8% 3-shot CoT	82.9% 3-shot CoT	73.7% 3-shot CoT	83.1% 3-shot CoT	66.6% 3-shot CoT	83.6% 3-shot CoT	75.0% 3-shot CoT
Knowledge Q&A ARC-Challenge	96.4% 25-shot	93.2% 25-shot	89.2% 25-shot	96.3% 25-shot	85.2% 25-shot	—	—
Common Knowledge HellaSwag	95.4% 10-shot	89.0% 10-shot	85.9% 10-shot	95.3% 10-shot	85.5% 10-shot	87.8% 10-shot	84.7% 10-shot

STUDENT CORNER

Veda D, 4th CSE C

Annapoorna V , 4th CSE A

Anushka Sinha, 8th CSE A

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Your contribution towards the newsletter is highly appreciated and your feedback greatly aids us in improving the quality. We look forward with some more contribution in upcoming editions.