YASH DAGADE

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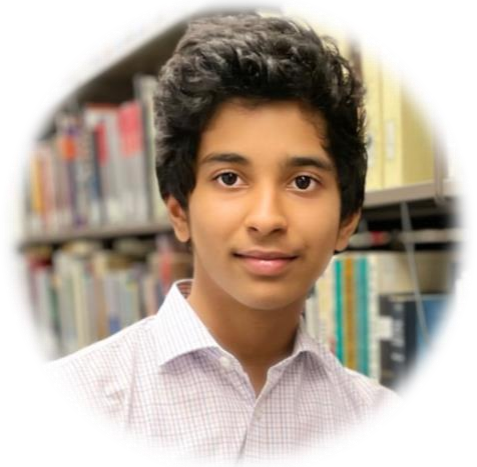
Publications	**In-Review (2025)**	**Radial-VCReg: More Informative Representation Learning through Radial Gaussianization** Yilun Kuang, _Yash Dagade_, Deep Chakraborty, Erik Learned-Miller, Randall Balestriero, Tim G. J. Rudner, Yann LeCun *NeurIPS 2025 Workshop on Uniform Representation*
	Accepted (2024)	**Lecture Notes in Mechanical Engineering** Dagade, Y. and Dagade, V. A. "Aerodynamic Performance Analysis of a Three-Bladed Vertical Axis Wind Turbine using Composite and Sandwich Materials," CDPMHM 2024
Patent	**2025**	Dagade, Y. A., Biswas, S., "Wind-Driven Energy Apparatuses and Methods Thereof"- https://patents.google.com/patent/US20250243843A1 Developed a scalable method to harness high-altitude wind power using contra-rotating vertical-axis wind turbines and a stable LTA shell design
Honors and awards	**Duke A.B. and Clark Scholarship** May 2024	▪ **A.B. Duke Scholarship:** A full-ride merit-based scholarship to Duke University, plus a 6-week study program at Oxford University. **Worth approximately $400,000.** ▪ **Clark Scholarship: An additional $40,000** awarded for leadership potential. ~12 A.B. Duke Scholars are selected from a pool of roughly 50,000 applicants based on their intellectual accomplishments and exceptional potential for academic leadership. Clark Scholars are chosen based on their leadership and entrepreneurial potential.
	Hackathon Awards Sept 2024 - Present	▪ **YC AI SUS Hackathon:** Won 1st Place at a 12-hour hackathon with ~300 participants during YC Startup School. ▪ **PennApps XXV (Best Use of Statistics & Best Community Impact)** – Won two major awards at the world's first collegiate hackathon, placing 1st out of 400+ participants ▪ **Duke 8VC Hackathon 1st place -** Collaborated in a team of 3 to build on the Llama Stack; awarded $2,000 prize and 8VC Fellowship fast-track.

ISEF Awards May 2023 and May 2024	▪ **3rd Place Grand Award** ($1,000) in 2023 and 2024 ▪ **$10,000 Renewable Energy and Sustainability Special Award** in 2024
	Grand Award and Special Award winners are selected from a global pool of participants representing over 70 countries.
Regeneron Science Talent Search Scholar Jan 2024	The Regeneron Science Talent Search scholars were selected from 2,162 applications received from high schools across 46 states, Guam, Puerto Rico and ten other countries. Scholars were chosen based on their exceptional research skills, commitment to academics, innovative thinking and promise as scientists and awarded 2,000$.
National Stem Champion April 2024	Champions are selected from the best projects from all 50 U.S. states, the District of Columbia, and U.S. territories and win a trip to the National STEM Festival in Washington, D.C. Work received recognition from President Obama and Representative Dean Phillips.
National Merit Finalist and AP Scholar with Distinction Dec 2023	Awarded to students in the top half- of one percentile based on PSAT performance. with no additional nominations required. AP Scholar with Distinction awarded.
USNCO Qualifier for national exam - 5th in State May 2023	Selection based on top ten chemistry Olympiad scores in state-level competition. I secured a position among the top 10, ranking 5th in the state, qualifying for national level. I was not able to participate in national due to citizenship status.
JSHS Tri State Winner x2 + National's Invite May 2023 and Jan 2024	Achievement based on scientific rigor, demonstrated in a 20-page research paper and a 10-minute video interview, followed by a 5-minute Q&A with a 3-judge panel. Nominated for a 7 day all-expense paid trip to Albuquerque, NM to present research at the National JSHS + 1,500$ prize money.
MVP Challenge Winner December 2023	Award of 5,000$ for the development of a prototype or pilot that demonstrates innovative thinking in solving a challenging problem. The award comes with a partnership with Porto labs and UMN Carlson School of Management to support innovative ideas.
Towards Zero death oral presenter and nominee for emerging leader award Nov 2023	Presented our research on EyeDa Maps using the Uber Hex algorithm to an audience of 40 at the towards zero death conference, University of Minnesota. Nominee for the Emerging Leader Award given to one person every year working in the field of distracted driving.
Energy Tech University Prize Challenge Finalist January 2024	Sponsored by the Office of Technology Transitions (OTT) at the U.S. Department of Energy (DOE), the American-Made EnergyTech University Prize (EnergyTech UP) recognizes finalists from across the nation for innovative energy research initiatives.

Norman Borlaug Scholar May 2022	The Norman Borlaug Science Achievement Award recognizes deserving high school juniors who excel in science.	
Non–Trivial Finalist May 2024	Selected as one of 300 over 9,000 applications for an 8-week fellowship for young people to start an impactful research, policy, or entrepreneurial project.	
State and regional Science fair awards March 2023	1. Northrop Grumman Sponsor Award, $300 2. 3M Specialty Materials Development Lab + Invitation to 3M Inventor Event, $100 3. Office of Naval Research Award, $125 4. Naval Science Award, $250 5. LHB Outstanding Engineering Award, $500 6. Excellence in Renewable Energy and Sustainability Award, $350 7. Best Display of Mechanical Engineering 1st Place Award at MN SSEF, $350	

Education

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2024-2028	**Duke University | A.B. scholar Full Ride + $40k** **B.S. Mechanical Engineering, Computer Science | 4.0 GPA** Relevant Coursework: Deep Learning, Advanced Deep Learning, Elements of Machine Learning, Natural Language Processing, Putnam Problem Solving Seminar, Abstract Algebra
Summer 25	**University of Oxford – New College** Visiting Student, The Ethics and Philosophy of Artificial Intelligence (Grade: A–)
2022-2024	**University of Minnesota, Twin Cities** **PSEO Student | 48 Credits | 3.9 GPA** Relevant Coursework: Fluid Mechanics, Thermodynamics, Machine learning fundamentals, Intro to AI, Advanced Programming Principles, Honors Physics I, Discrete Math, Linear algebra and Differential Equations, Functional Genomics and Bioinformatics
2022-2024	**Normandale Community College** **PSEO Student | 8 Credits | 4.0 GPA** Relevant Coursework: Multivariable Calculus, Stress Management
2020-2024	**Eden Prairie High School** **Senior | 60 Credits | 3.9 GPA** Relevant Coursework: AP Calculus AB + BC, AP Physics C Mechanics, AP Physics E&M, AP CSA, AP CSP, AP Human Geography, Advanced Anatomy and Physiology

Research and Volunteering

RESEARCHER AT PPP LAB UMN
2022-2023

Launched and led the SkyWindFarm project, partnering with Dr. Biswas at the University of Minnesota. Developed a lab-scale prototype, reaching TRL 4. Submitted a first author manuscript in a top energy journal and obtained a provisional patent. The project, surpassing current AWEs in economy by 25%, involved extensive wind tunnel testing, earning $40,000+ in grants.
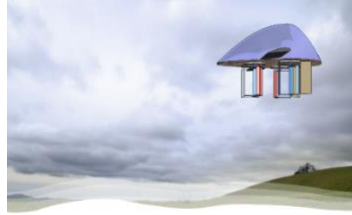

SKYWINDFARM DESIGN and SCALED PROTOTYPE

Founder and President of EyeDa
2021-2023

As founder and president of EyeDa, I led a team of 20 students in creating AI solutions to prevent distracted driving. Our work gained recognition on ABC, NBC, and Star Tribune. We presented a demo to the MN Senator and at the state capitol. I was the keynote speaker at the Towards Zero Death conference and the Emerging Leaders Award Nominee.

Research Internship Director – Shreya Dixit Foundation
June2023-August2023

I lead 8 high school interns to pioneer a novel route planning algorithm that analyzes previous accident data to identify unsafe intersections and predict safer routes. Partnered with MnDOT and Google Engineers. Check out our website at: https://idontwannadie.lol/
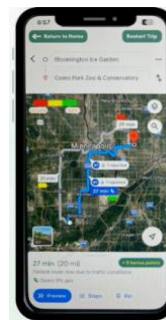

EyeDa App   *EyeDa Maps*   *Accident Heatmap used for AI data Training.*

Research volunteer at Myers lab
Sep2023-Dec2023

Conducted research at Chad L Myers lab UMNTC on Polycythemia Vera (PV). (Research motivated by personal reasons) Discovered two new therapeutic genes (RUX1 and CBFB) that could be used to target the mutation that leads to PV. Ongoing collaboration with Dr. Zoho at UMN, TC to find potential drugs that can target these genes.
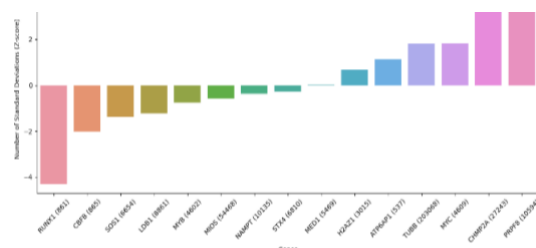

z scores for RUX1 and CBFB

State Fair Co Lead for Team 2502; Founder and Mentor FLL team Red Pickles
2021-2023

Design and cad lead for Talon Robotics. Lead the drivetrain switch and designed the intake systems. Held lectures on CAD and taught FEA and FEM methods in Ansys to the team. Presented for and won the Excellence in Engineering Award for the team. Won Regionals and Placed in State and qualified for Worlds during 2022.

FLL Team Red Pickles Founder. Invited industry experts to give talks on the importance of energy and supervised 6 elementary school kids in a project about implementing renewable energy. Helped supervise the build of the FLL team robot and taught coding concepts from scratch.
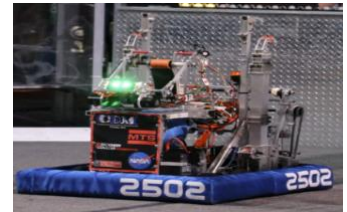
2023 Robot   *2022 Robot*

Flying cloud airport – Wings of the north air museum restoration airplane volunteer
2021-2023

Wings of the North specializes in restoring vintage airplanes through volunteer efforts. I contributed to the restoration of a 1940s WW2 plane Vultee Aircraft Bt-15 Valiant. Worked on the spark ignition and piston assembly for the Wright R-975-11. Further calibrated and tested anemometers and the control system on the flight.

BT 15 VALIANT PICTURE

Languages

English	Native or bilingual proficiency
Hindi	Native or bilingual proficiency
Love	Informally Proficient