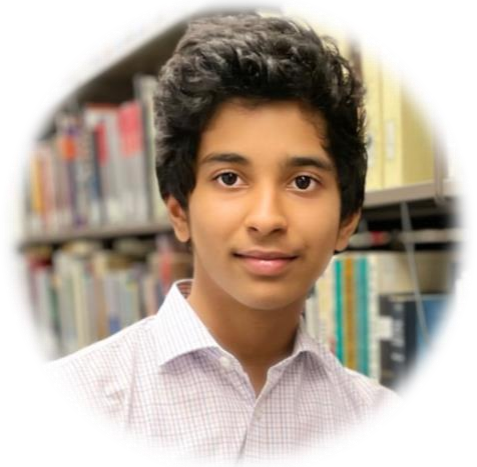


YASH DAGADE

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Publications In-Review (2025)

Radial-VReg: More Informative Representation Learning through Radial Gaussianization
Yilun Kuang, Yash Dagade, Deep Chakraborty, Erik Learned-Miller, Randall Balestrieri, 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	<ul style="list-style-type: none"> ▪ 3rd Place Grand Award (\$1,000) in 2023 and 2024 ▪ \$10,000 Renewable Energy and Sustainability Special Award in 2024 <p>Grand Award and Special Award winners are selected from a global pool of participants representing over 70 countries.</p>
Regeneron Science Talent Search Scholar Jan 2024	<p>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\$.</p>
National Stem Champion April 2024	<p>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.</p>
National Merit Finalist and AP Scholar with Distinction Dec 2023	<p>Awarded to students in the top half- of one percentile based on PSAT performance. with no additional nominations required. AP Scholar with Distinction awarded.</p>
USNCO Qualifier for national exam - 5th in State May 2023	<p>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.</p>
JSHS Tri State Winner x2 + National's Invite May 2023 and Jan 2024	<p>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.</p>
MVP Challenge Winner December 2023	<p>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.</p>
Towards Zero death oral presenter and nominee for emerging leader award Nov 2023	<p>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.</p>
Energy Tech University Prize Challenge Finalist January 2024	<p>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.</p>

**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

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

**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.



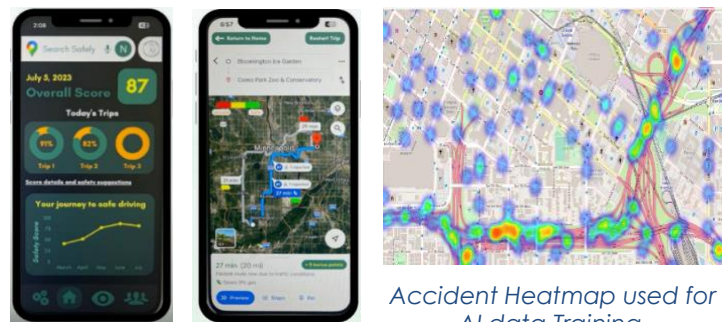
**Founder and
President of EyeDa
2021-2023**

SKYWINDFARM DESIGN and SCALED PROTOTYPE

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/>

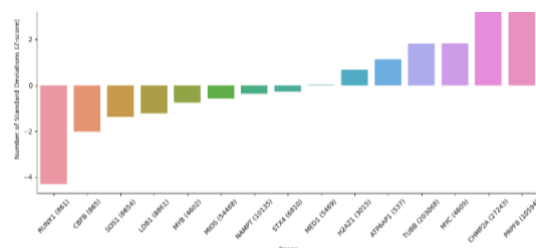


EyeDa App EyeDa Maps

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**

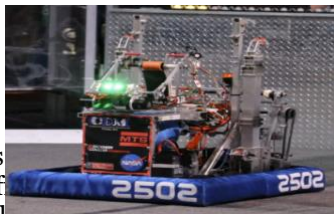
Design and cad lead for Talon Robotics. Lead the drivetrain switch and designed the intake systems. Held lectures on CAD and taught FEA and FEM methods in Ansys to the team. Presented for and won the Excellence in Engineering Award for the team. Won Regionals and Placed in State and qualified for Worlds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

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



2023 Robot



2022 Robot

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