

Pranav Konda

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Education

Enloe High School

RELEVANT COURSEWORK

- AP Calculus BC
- AP Computer Science A
- IB Mathematics HL
- AP Biology
- AP Chemistry
- IB Chemistry HL
- AP Physics C
- AP Statistics
- IB Computer Science HL

Class of 2022

Raleigh, NC

North Carolina State University

NON DEGREE STUDIES

- MA 242 - Calculus III
- MA 405 - Linear Algebra
- MA 511 - Advanced Calculus
- MA 341 - Differential Equations I
- MA 520 - Linear Algebra
- MA 513 - Complex Variables
- MA 524 - Combinatorics I
- MA 724 - Combinatorics II
- MA 580 - Numerical Analysis I

August 2019 - Present

Raleigh, NC

Accolades

USA Biology Olympiad

NATIONAL SEMIFINALIST

- Placed in the top 120 students on the 2021 semifinals exam.

Since 2020

American Invitational Mathematics Examination

MULTIPLE-TIME QUALIFIER

- High score of 9.

Since 2019

USA Computing Olympiad

SILVER DIVISION COMPETITOR

Since 2020

Science Olympiad

MULTIPLE TOP PLACEMENTS

- Earned medals at the regional, state, and national invitational levels.
- Competed in biology events: Anatomy and Physiology, Protein Modeling, Designer Genes, and Disease Detectives.
- Also competed in Astronomy, Detector Building, and Experimental Design.

Since 2015

Health Occupations Students of America

INTERNATIONAL LEADERSHIP CONFERENCE

- Placed 4th internationally in the CERT Skills event.

Summer 2020

Projects

NASA SPEARS 3D Microscope

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

- Research intern in the Intelligent Robotics Group at the NASA Ames Research Center.
- Member of the SPEARS 3D Microscope project, which aimed to construct a rugged microscopy unit capable of reconstructing a three dimensional model of the surface it views.
- Implemented 3D reconstruction algorithms for use on embedded systems using `C++` and `opencv`.
- Developed and implemented a machine learning model to quality test images taken by the microscope to be reconstructed. Images were classified as either sharp (viable) or blurry (unusable) using matrix convolution operators and a support vector classifier.

Summer 2021 - Present

ARC, Mountain View, CA

Analysis of the Correlation between Age and Risk-taking

DUKE UNIVERSITY

- Analyzed the correlation between willingness to take risks and age in individuals ranging from 10 to 60 years old.
- Constructed and implemented a risk factor coefficient based on specific weighting to quantify willingness to take risks. Participants in the study were not conscious of this.
- Analyzed and cleaned up the data from the study (taken from the Qualtrics survey software) using `python` scripts, and created plots and other figures from the data.

July 2020

Durham, NC

- Created a database with write time cloud syncing for my FIRST Robotics Team to manage all parts and their status (checked out, in storage) using C++ and Python.
- Both a Command Line Interface and a Graphical Interface were available for users, using the SFML OpenGL wrapper in C++.

Skills

- **Programming** C/C++, Python, HTML, CSS, Javascript, ReactJS/NextJS, MATLAB, Git, OpenCV
- **Languages** English, Telugu, Japanese, Spanish
- **\LaTeX** Comfort with typesetting a variety of formats including documents, research articles, and presentations. Styling skills.
- **Graphic Design** Adobe Suite: Illustrator, Photoshop, XD, Premiere Pro. CLIP Studio Paint Pro, Procreate, Figma.

Leadership

Cyclic National Competitive Mathematics Group

CHIEF TECHNICAL OFFICER AND EXECUTIVE BOARD MEMBER

November 2018 - Present

<https://cncmath.org>

- Nonprofit organization dedicated to promoting competitive mathematics in its members, using a combination of both in-person and online contests, free lectures, handouts, and a Problem of the Day contest.
- Serve as the CTO of the organization, where I direct all technical projects (such as Discord bots, the website, and online platforms) and propose new ideas. I manage the organization's codebases and hosting services. Project sub-leaders report to me on the status of each project. I also direct the development of the website.
- I aided with obtaining 501c3 nonprofit status for the organization, write legal documents for events, and used directed advertising to help grow the organization to over 2000 members nationwide.

InspireNC

CHAIRMAN

July 2019 - Present

<https://inspirenc.us>

- Nonprofit organization dedicated to promoting STEM throughout the NC community through various programs and community outreach.
- I am responsible for the upkeep of InspireNC, organizing and implementing new endeavors that benefit the community, and reaching out to other businesses or institutions regarding sponsorships, partnerships, or outreach events.
- I specifically worked on the Computer Science department at InspireNC, authoring and implementing in house programming competitions, mentoring and teaching members programming fundamentals, and setting up various competitions such as MIT Zero Robotics and AFA Cyberpatriots for members to compete in.

FRC Team 6908 Infuzed

TEAM CAPTAIN, PROGRAMMING LEAD

December 2018 - Present

InspireNC

- Programming lead, most experienced programmer. Mentor other team members and teach them FRC specific programming skills and basic Java.
- Specialize in computer vision systems and controls engineering.
- Team Co-Captain for the 2021 season.

Tutoring Gone Viral

CO-PRESIDENT

December 2020 - Present

Cary, NC

- Due to the impact of the COVID-19 pandemic, Tutoring Gone Viral was created to specialize in offering custom and tailored help to teachers, and by proxy their students, who attend at risk schools.
- Teachers are able to request videos, presentations, or handouts with specific content that their classes need.
- Developed an ACT Curriculum course with slides and instructional videos being used at multiple local high schools. Currently reaching out to more schools.