Rishi Pathak

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EDUCATION

GEORGIA TECH
BS in Computer Science
May 2023 | Atlanta, GA
College of Computing
Overall GPA: 3.88 / 4.0
Major GPA: 4.0 / 4.0

BLUE VALLEY WEST
High School Diploma
May 2020 | Overland Park, KS
Summa Cum Laude
Weighted GPA: 4.85
Unweighted GPA: 3.98

SKILLS

PROGRAMMING
Over 5000 lines:
Java • Python
Over 1000 lines:
C • Assembly
Familiar:
iOS • LaTex

MISCELLANEOUS
Electronics:
Arduino • Raspberry Pi • AVR MCU • Fritzing
Libraries:
OpenCV • Numpy • Pandas • Pytorch
Requests • Matplotlib • Sklearn • PySerial
Other:
Git • SSH • AWS

EXPERIENCE

MARIN TUTORS
Tutor
Sep 2021 - Present | San Francisco, CA
- Tutoring students in an array of subjects, including Calculus and Algebra
- Maintaining website architecture
- Assisting CEO with day-to-day tasks

CODE THE UNIVERSE
Founder & Chairman
May - Oct 2020 | Overland Park, KS
- Founded an international-level nonprofit with over 2,500 students
- Oversaw the development of courses on 8 different programming languages
- Developed server infrastructure through AWS cloud-services

RESEARCH

REHG LAB @ GT | Undergraduate Researcher
Aug 2021 – Present | Atlanta, GA
- Researching the development of novel **computer vision models** that will aid in understanding **non-verbal communication cues** such as gaze, gestures, posture, and facial expressions.
- Jointly advised by **Dr. James Rehg** and **Jeffrey Valdez**

KENDEDA FOUNDATION | Secondary Investigator
Jun 2021 – Present | Atlanta, GA
- Developing an iOS-based app that attempts to detect the presence of **invasive species** in pictures through the use of **convolutional neural networks**.
- Research was selected by the **Kendeda Building Advisory Board** for **full funding** on an as needed basis, with initial valuation of **$500**, as part of the micro-grant program at Georgia Tech.

SCHOOL OF MATHEMATICS | Undergraduate Researcher
May 2020 – May 2021 | Atlanta, GA
- Worked under **Dr. Heinrich Matzinger** to determine the true mortality rate of the first wave of the Coronavirus Pandemic.
- Used the **requests** library to gather data from various databases on the web.
- Developed models using **matplotlib**, **numpy**, and **pandas** in order to extrapolate inferences about the **COVID mortality rate** within the general populous from scattered data-points across the world.

PROJECTS

SELF DRIVING-RC CAR | Creator & Developer
May 2021 – Aug 2021 | Overland Park, KS | git.io/Ju1fU
- Used a **Raspberry Pi, piCamera, Arduino**, and basic **electronic components** to convert a regular RC car to a vision-based, self-driving RC car.
- Developed **circuitry** using **Fritzing** and wrote code in **C** to enable precise control of the **Servo** and **DC motors** with an **Arduino**.
- Used the **pySerial** library to allow for communication between a **Raspberry Pi** and **Arduino** through the **UART** protocol.
- Implemented **Canny Lane Detection** and **Hough Line Transform** for **suggested path calculation** by the Raspberry Pi.

I HEARD | Team Lead & AI Developer
Dec 2020 – Jan 2021 | Overland Park, KS | iheard.tech
- Headed the development of an **on-the-go webapp** designed to assist the **hard of hearing** navigate **urban environments**.
- Developed and trained a **CNN** with over **68% accuracy** on the **Urban Sound Dataset** which featured over **8,000 sounds** belonging to **10 distinct classes**.
- Integrated **Google Cloud services** for real-time **speech-to-text** translation.

AWARDS

2021	Collegiate	Kendeda Micro Research Grant Awardee
2020	National	National Merit Scholarship Recipient
2020	State	Kansas Governor's Scholar
2017	International	Think Award Finalist (FIRST Robotics World Championships)