

Ajay Karthikeyan

B.S. Biology PGP in AI and Machine Learning

Education

Ajay Karthikeyan

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The University of Texas at Austin / PGP in Artificial Intelligence and Machine Learning

July 2022 - June 2023, Austin, TX

The University of Texas at Dallas / B.S. in Biology and Minor in Psychology

August 2017 - July 2021, Richardson, TX

Medical Experience

Medical City Plano / Volunteer/Emergency Room Assistant

June 2022- December 2022, Plano, TX

- Volunteered a total of 300 hours. Answered and redirected phone calls at the charge nurse's station.
- Restocked the stations in the patient rooms with blankets, towels, saline, alcohol wipes, gowns, gloves, etc.
- Helped the charge nurse with breaking down and creating patient charts to track who is being discharged and who is being newly admitted
- Provided comfort and connecting with patients while walking them to the emergency rooms until the physician arrived.

Medical City Plano / Shadowing Dr. Christopher Kennedy

March 2022 - May 2022, Plano, TX

- Observed Dr. Kennedy in the Emergency Room at Medical City Plano
- Observed patient diagnosis, medication administration, and treatment followup procedures

Medical City Plano / Shadowing Dr. Srivalli Adari

October 2021 - December 2021, Plano, TX

- Observed Dr. Adari and learned what an infectious disease specialist does
- Observed the diagnosis and treatment of various illnesses such as HIV and COVID-19

MedSchoolCoach / Virtual Shadowing with Dr. Sahil Mehta and others

August 2021- October 2021, Online

- Virtually shadowed Dr. Mehta and several other physicians in multiple different fields, from urology to orthopedic surgery to child neurology.
- Expanded my knowledge on the multiple different fields in medicine

Medical City Plano / Student Volunteer/Business Intern

May 2019 - August 2019, Plano, TX

- Volunteered a total of 300 hours. Answered and redirected phone calls at the front desk. Assisted patients and visitors with finding and walking to their rooms. Delivered gifts that were dropped off for patients.
- Helped Director Jim Goodwin track which patient is assigned to which physician by creating detailed charts and graphics to streamline the process.

Medical City Plano / Student Volunteer/Oncology Room Assistant

May 2018 - August 2018, Plano, TX

- Volunteered a total of 300 hours. Restocked the stations in the patient rooms with blankets, towels, saline, alcohol wipes, gowns, gloves, etc.
- Helped the charge nurse by taking patients' vitals and administering common medications

Lee Eye Surgery Clinic / Shadowing Dr. Marvin Hsiao

June 2017 - August 2017, Carrollton, TX

- Shadowed Dr. Hsiao to learn the essentials of becoming an ophthalmologist
- Observed procedures such as cataract lens removal and glaucoma filtering surgery (trabeculectomy)

Community Involvement

Crisis Text Line / Online Crisis Mediator

June 2020 - January 2023, Online

- Answered text messages from across the country from people in crisis
- Utilized active listening, collaborative problem solving, and safety planning to bring patients from a moment of crisis to a calm state
- Worked with local law and medical agencies when needed to ensure the patient would be safe and secure

Local Tutoring / High School Tutor

August 2020 - May 2021, Online, Frisco, TX

- Tutored high school students on subjects such as AP Biology, AP Physics, and AP Chemistry
- Communicated effectively with students and their parents over

Zoom every week.

- Organized activities and lesson plans to keep them ahead of their class and to maximize their time for AP exam preparation.
- Started online, then met up in person to teach once they were vaccinated and COVID-19 protocols allowed for it

Academic Projects

University of Texas at Austin / Image Classification using CNNs

April 2023, Austin, TX

- Used artificial intelligence and machine learning to train a model to identify different plant species based on the shape of their seedlings by creating a convolutional neural network
- Currently applying image recognition and classification to train and recognize tumors and cancer tissue to expedite cancer diagnosis and treatment

University of Texas at Austin / Data Analysis and Product Recommendation Based on Self-Reported Fitness

August 2022, Austin, TX

- Used Python and basic machine learning to visualize health and fitness data given by customers interested in purchasing a treadmill and provided a detailed analysis on how biological traits (age, gender, fitness) and social traits (income) would influence their desire to purchase a specific model of treadmill
- Created a customer profile for each model of treadmill and discussed how a person's biological traits would influence its purchase over the other models

Relevant Coursework

University of Texas at Austin / PGP in Artificial Intelligence and Machine Learning

July 2022 - June 2023, Austin, TX

- Developed advanced skill level in Python to create reports of extensive datasets consisting of graphs and significant interpretations
- Used exploratory data analysis, hypothesis testing, and model building for linear and logistic regressions
- Applied Python and data science skills to create neural networks driven by artificial intelligence and machine learning. These neural networks recognize patterns and classify images and use that knowledge to come to a conclusion
- Worked through Jupyter Notebook, Google Colab, and Github

University of Texas at Dallas / Medical Neuroscience

Spring 2020, Richardson, TX

- Participated in patient vignettes created by my professor. Dr. Van Miller would create a fictional patient who would come in with an illness and we, as a class, would have to take turns asking questions and prescribing treatment options in real time to save the patient.

- Taught me how to critically think as a physician and how to ask several questions before prescribing a medication or a test.

Research Experience

University of Texas at Dallas / Student Researcher

August 2020 - May 2021, Richardson, TX

- Worked under Dr. Li Zhang
- Used PCR to split and clone fragments of genes to be inserted into plasmid pER-15b and checked for any impurities
- Measured the expression of the HRG-1 transport protein in cancer and non-cancer cell lines to see if cancer cell lines uptake heme at a faster rate.
- Research focused mainly on applying advanced heme biology to learning how lung cancer propagates and how to neutralize it
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Baylor University Medical Center / Student Researcher

January 2020 - March 2020, Dallas, TX

- Talked with ballistics trauma patients about the severity of their symptoms and how it affected their physical and mental recovery. Strong focus on the effects of physical wounds on PTSD.
- Collected and extrapolated data from across the campus to form a detailed write up to direct future studies for this project

Campus Involvement

University of Texas at Dallas / Alpha Epsilon Delta

August 2017 - May 2021, Richardson, TX

- Volunteered at various events such as Race for a Cure, the Gaming Social, and various cookie and bake sales at the Student Union
- Organized recruitment events for incoming freshmen students and socials

University of Texas at Dallas / Molding Doctors

August 2017 - May 2021, Richardson, TX

- Volunteered at various events such as blood drives, the Halloween Night Walk, and various different socials
- Actively participated in the "Ask an MD" events, where I gained insight about the daily challenges and routines of physicians
- Actively participated in medical ethics and American healthcare workshops, where I learned more about the interpersonal aspects of healthcare and how to handle patients in a way that respects their confidentiality and safety.

Leadership

Road to Success MCAT Test Prep / Founder and Tutor

August 2020 -present, Online

- Created an online tutoring service for the MCAT
- Created several series of videos breaking down the major topics that will be tested on the MCAT.
- Communicated effectively with students over Zoom every week
- Organized activities and lesson plans to keep them ahead of their class and to maximize their time for exam preparation.
- Organized practice exam reviews separately for students that required it.

Local Tutoring/ College Tutor

February 2020 - May 2021, Richardsdon, TX, Online

- Tutored fellow college students on subjects such as biology, chemistry, and psychology
- Communicated effectively with students over Zoom every week.
- Organized activities and lesson plans to keep them ahead of their class and to maximize their time for exam preparation.
- Started in person, , then met up online with the advent of COVID-19