AKANKSHA NEHETE

nehetea@mcmaster.ca | 647-767-6905 | github.com/akankshanehete linkedin.com/in/akanksha-nehete-75273a18b/

EDUCATION

McMaster University Hamilton, ON
Sep 2020 - Apr 2025

B.Eng Biomedical and Software Engineering (Co-op)
cGPA: 3.92/4.00

Awards NSERC Undergraduate Student Research Award • President's Award

SKILLS

Technical Languages Python • Java • JavaScript • Golang • SQL • C • C++ • HTML5 • CSS

Tools and Frameworks Tensorflow • PyTorch • Git & GitHub • Bash • Autodesk Inventor • React.js • Bootstrap • Matplotlib

LEADERSHIP EXPERIENCE

Print Settings Team Manager | Medical Makers
• Led a team in the development of **3D printed** lenses prototypes to create cheap and easily assembled eyeglasses in third world countries
• Planned **green** initiatives such as 3D printed menstrual cups to reduce waste
• Led design reviews and prototype creation by creating weekly print logs and meeting minutes

EXPERIENCE

Software Developer | McSCert
May 2023 - Aug 2023
• Headed the development of prepRET, an open source **Python library** designed for segmentation and classification of eye disease from retinal fundus images
• Trained and built Tensorflow CNNs to classify degree of diabetic retinopathy from fundus images with over **96% accuracy,** a 13% accuracy improvement for clinical use
• Conducted image preprocessing, feature engineering, and exploratory data analysis to enhance model performance

Web Assistant | Degroote School of Business IT
Oct 2022 - Present
• Assisted with data migration of Degroote MBA admissions data from SharePoint website to new Microsoft SQL Server Database
• Identified data mismatches using Excel Powerquery, preserving the application information of **1600 applicants** that did not migrate
• Conducted literature searches in order to come up with effective approaches to improve experiential learning at Degroote

Machine Learning Intern | McMaster Data Science Lab
May 2022 - Aug 2022
• Used python TensorFlow library to analyze and classify actions on Human activity recognition datasets using Recurrent Neural Networks
• Co-authored paper that proposed ARF-AUG, a covariate shift detection and adaptation method that had a **34.9% increase** in accuracy compared to existing state-of-the-art machine learning methods

Frontend Engineer | Alumnav.Inc
May 2021 - Aug 2021
• Worked with a team to build a marketing website for AlumNav, a nonprofit organization that mentors and tutors students
• Upgraded existing website by developing dynamic and interactive components using React.js and BootStrap, resulting in **20% more** student participants
• Architected and implemented both the Events and Contact Page

PROJECTS

prepRET
• An open source Python library for retinal image preprocessing, image segmentation, and diagnostic analysis of DR and glaucoma
• Methods perform **segmentation** relevant to disease diagnosis; optic disc, optic cup, hard exudate, and blood vessel segmentation
• Designed and implemented a **novel algorithm** providing an estimate of CDR ratio for early detection of glaucoma in patient retinal images

DashBuddy
• Mobile Application built using React-Native that allows new drivers to decipher vehicle dashboard warning symbols by taking a picture of their dashboard
• Created and annotated a custom dataset with 200+ images of various dashboard symbols which was used to train custom object detection model using Roboflow API

ECodes
• Mobile Application that allows users to get points for each sustainable action they take (e.g shopping at sustainable businesses)
• Used a React-Native frontend and Flask backend as well as a Python QR code API and camera access feature in React-Native
• OpenWeatherMaps API and Twilio API used to send users eco-friendly text based reminders

Neurogene Website
• Built UI components in React.js for startup website idea that emerged in my Cell Bio course at McMaster
• Implemented Particles.js library with Javascript to create an interactive, graphical web application