Yubraj Bhandari

Durham, NC, USA

Personal Website: www.yubrajbhandari.com.np Email: yubraj.bhandari@duke.edu

LinkedIn: yubrajbhandari Github: yubrajbhandari923

EDUCATION

- **BS in Physics and Computer Science, Duke University** Aug 2023 - May 2027

SKILLS SUMMARY

- **General Programming:** Python, Javascript, C++, Data Structures and Algorithms, Github, Latex, Docker
- **Web Development:** Full stack; HTML, CSS, Tailwind, ReactJS, Django, Flask, FastAPI
- **Data Science and Automation:** Numpy, Pandas, Matplotlib, Python Scripting, Selenium, BeautifulSoup

EXPERIENCE

- **Center for Virtual Imaging Labs** Duke University, USA
  Student Researcher *Oct 2023 - Present*
  - Implemented quality control module for rejecting poor segmentation masks obtained from deep-learning model.
  - Developed a WebGL webapp using threejs to display 3D-mesh of simulated human body.
  - Published a pip package (obj2gltf) to convert obj file into gltf format for WebGL rendering.
- **Ecstatic Paradox** Butwal, Nepal
  Backend Developer *Sept 2020 - Dec 2022*
  - Built Wagtail Django backend for the website, which included content management and HR management system. Github: https://bit.ly/3u01txO
  - Designed and Implemented MySQL database using Django ORM.
- **N.A.M.E Institute** Butwal, Nepal
  Physics and Mathematics Tutor *Jun 2022 - Mar 2023*
  - Taught physics and mathematics to high school graduates for Nepal's engineering entrance examination

PROJECTS

- **Easemed (Medical Mobile App):**
  - Built backend using FastAPI and integrated frontend mobile app to the chatbot and database.
  - Features include medical chatbot, online doctor consultation, news summary, and nearest hospital recommendation
  - *Absolute winner at OIthon 2022* (Kathmandu based physical hackathon). Github: https://bit.ly/46JlA1V
- **Veggis (All-in-one app for Farmers):**
  - Built backend in Django; deployed a pre-trained Machine Learning model for plant disease detection and integrated REST API to frontend; designed and implemented Relational Database; and integrated a Messenger Chatbot.
  - A mobile app targeted at farmers, which included a ML disease detection, weather alert system; latest agriculture news; a messenger bot based online market place. Github: https://bit.ly/45zB3Ag
- **GunasoBot (Mental health relief chatbot):**
  - Built a Django server and worked with Facebook API to build a messenger chatbot using GPT-3 API and deployed to Heroku.
  - A messenger chatbot to provide services for mental health, disaster relief, and violence prevention.
  - *Category prize at Creatica 2022* (New york based MLH hackthon with 463 international participants.) Devpost: https://bit.ly/406FjG9
- **Sunyantra (AI Search Engine for NASA Database):**
  - Worked on React webapp integrating REST API in ReactJS Single Page Application.
  - Features include AI search Engine with document analysis and recommendation that used NLP to make documents from NASA Technical Report Server more accessible.
  - *Local people Choice award in NASA Space Apps Challenge 2022.* Github: https://bit.ly/3Fxxf7T

HONORS AND AWARDS

- **Bronze Medalist -** International Olympiad on Astrophysics and Astronomy, 2021
- **Silver Medal -** American Mathematics Olympiad, 2021
- **Mahatma Gandhi Scholarship -** Indian Embassy, 2019/2020

CONFERENCES AND WORKSHOPS

- **Junior Mathematics Olympiad Camp** Mathematics Initiative in Nepal
  Taught Number Theory to 150 high school students in Nepal *2022*
- **Speaker at Olympiad Interaction Session** SPAM learners
  Introduced about Astronomy Olympiad to students. *2022*
- **Presenter at 13th National Convention of Students Quality Circle** Quest Nepal
  Presented effect of Electronic devices among students in school to over 1500 students. *2018*
- **Presenter at 12th National Convention of Students Quality Circle** Quest Nepal
  Presented Demophobia among students of our school to over 1200 students. *2017*