

# SAKSHAM RAJBHANDARI

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## EDUCATION

Drexel University - Philadelphia, PA - Bachelor of Science in Computer Science Anticipated graduation - June 2028  
• Grade: Sophomore • A.J Drexel Scholarship • Dean's List • GPA: 3.78

## RELEVANT COURSEWORKS

- Data Structures and Algorithms
- Systems Architecture
- Mathematical Foundations in Computer Science
- Introduction to Software Engineering
- Advanced Programmng Techniques
- Calculus I, II, III

## SELECTED EXPERIENCE

PlantDoc : Harvesting Hope with AI - Philadelphia, PA - *CI 102/103 Member* 01/07/2024 - 06/10/2024

- Trained a Convolutional Neural Network model (CNN) on 56,000 images across 33 disease classes, achieving 97.6% detection accuracy
- Implemented GEMMA API to power an AI chatbot that provides disease clarification, symptoms, and cure
- Developed a dynamic website and integrated the AI model and chatbot using FastAPI receiving diagnosis under 100ms
- Enhanced chatbot's accuracy through 100+ tests and managed Agile/Jira-driven project timelines

VIP: Future of Power and Energy - Philadelphia, PA - *Research Project* 04/01/2024 - 06/21/2024

- Implemented Stereo Vision using OpenCV, enabling a robot to locate a specific dimension wireless charger cuboid box underwater
- Applied the Semi-Global Block Matching algorithm for real-time disparity calculation, contour, and object detection
- Fine-tuned the algorithm to handle light refraction, improving underwater detection accuracy by 13%
- Utilized Agile methodologies to progressively improve the system, optimizing memory efficiency, using garbage collection, for real-time performance

Drexel CCI Commons - Philadelphia, PA - *Technical Student Assistant* 09/20/2024 - Present

- Deliver technical support across Windows, macOS, and Ubuntu, resolving issues and assisting users efficiently
- Oversee and troubleshoot live-streamed CCI classes, offering real-time support for recordings and technical difficulties
- Handle computer set up, imaging, and updates, while documenting technical procedures for streamlined future reference
- Manage technical equipment inventory and provide AV support to professors, ensuring prompt issue resolution

Drexel Digital Development Camp - Philadelphia, PA - *Counselor* 07/08/2024 - 07/25/2024

- Mentored a diverse group of 80 students over three weeks, guiding full-stack development projects that fostered teamwork
- Led workshops on Python, Pygame and Agile, significantly enhancing the practical coding skills of the entire camp cohort
- Provided intensive mentorship to two teams and contributed over 30 hours of collaborative coding to integrate AI
- Guided two teams to success, one implementing YOLOv8 for ASL translator and the other leveraging LLM for hair-care application.

## PROJECTS

Bio Sortify : AI for greener tomorrow - Philadelphia, PA 04/20/2024 - 05/21/2024

- Fine-tuned VGG16 pre-trained model with 200,000 images, achieving 98.8% accuracy in waste categorization
- Converted the model to TensorFlow.js, enabling a rapid inference speed of approximately 16ms
- Designed the application's front end using HTML, CSS, and JavaScript for an engaging user experience
- Enabled real-time classification system on the website that processes each video frame with inference speed under 50ms

Automatic Number Plate Detection - Philadelphia, PA 12/15/2024 - 01/02/2024

- Developed an automatic number plate detection system using OpenCV and EasyOCR for plate detection and text extraction
- Applied image processing techniques such as adaptive thresholding and bilateral filtering to improve detection accuracy
- Optimized text recognition by filtering non-alphanumeric characters, enhancing the performance of the detection system

## SKILLS

- **Programming Languages:** Python, Java, C, C++, HTML/CSS, JavaScript, Bash
- **Frameworks & Libraries:** TensorFlow, FastAPI, Flask, OpenCV, RISC-V Venus Simulator
- **Software & Tools:** TDD, SDLC, Git, AWS, Jira/Agile, Postman/Insomnia, RISC-V, macOS/Windows/Linux, MS-Office

## LEADERSHIP & INVOLVEMENT

Drexel Nepali Student Association - Philadelphia, PA - *Treasurer* 06/01/2024 - Present

- Led the planning and execution of major cultural events, including Dashain and Diwali, Nepal's two largest festivals.
- Manage the organization's budget and track expenses to ensure financial stability and resource efficiency.
- Facilitate meetings to develop financial strategies, ensuring alignment with organizational goals.