

# Prathamesh Devadiga

## Professional Summary

**Innovative Computer Science Student & Entrepreneur** with a passion for leveraging technology to drive social change. Skilled in **Machine Learning, Data Science, Web Development (Frontend)**, and **Finance**. Excels in decoding financial markets using advanced ML algorithms. Co-Founder of "The Bookshelf," simplifying peer-to-peer book lending, and President at "Catalysis," empowering young minds through education. Eager to collaborate on impactful projects and contribute to innovative solutions.

## Contact Information

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**GitHub:** [github.com/devadigapratham](https://github.com/devadigapratham)

**Portfolio:** [devadigapratham.github.io](https://devadigapratham.github.io)

## Experience

### Research Intern, IIT Indore

*Dec 2023 - Present* As a

Research Intern at IIT Indore, I am currently specializing in the intersection of cybersecurity and Deep Learning, specifically focusing on developing techniques for malware detection. I leverage Deep Learning methodologies to advance innovative approaches in identifying and addressing evolving malware threats.

### Co-Founder & President, Catalysis Bangalore

*Jul 2023 - Present*

Leading operations, budget management, and strategic planning for a non-profit empowering young minds through mentorship and education.

### Mentor, HackerSpace

*Oct 2023 - Present*

Involved in mentoring and conducting workshops, contributing to the development-oriented community.

### Member, Google Developer Student Clubs PES University ECC

*Aug 2023 - Present*

Managed event finances, collaborated with organizers, and enhanced participant experience, offering a cost-free event.

### Co-Founder and Web Developer, The BookShelf

*May 2023 - Present*

Developed a transformative platform connecting students for seamless peer-to-peer book lending and selling, fostering knowledge sharing.

I single-handedly designed, developed, and managed my startup's website, meticulously ensuring accurate content representation and optimizing user experience for enhanced engagement.

### Research Intern, MedInn TechLab

*Apr 2023 - Present*

Conducted research on bioinformatics and medical devices. Currently developing an LLM for integration into the Medical Industry.

### Webmaster, IEEE RAS PESU EC CAMPUS

*Jun 2023 - Sep 2023*

Proficiently designed, developed, and managed the club's website, ensuring precise event representation and optimizing user experience for enhanced engagement.

### Social Summer of Code - Open Source Developer, Hack2skill

*May 2023 - Jul 2023*

Contributed to open-source projects, gaining valuable experience in collaborative software development.

## Education

### **Bachelor of Technology - BTech, Computer Science**

*PES University*

*Oct 2022 - May 2026*

CGPA : 9.41

Recipient of CNR Rao Scholarship (Top 5% of students)

### **Grade 12**

*Madhava Kripa School*

*Jun 2021 - May 2022*

Grade : 94.8

Among top 10 in the batch. Part of Chess Team, Scouts, School Council.

### **Grade 10**

*Madhava Kripa School*

*June 2019 - March 2020*

Grade : 90.8

Among top 10 in the batch. Part of Chess Team, Scouts, School Council.

## Skills

**Programming Languages:** Python, JavaScript, HTML, CSS, C, Java, Julia

**Frameworks:** TensorFlow, PyTorch, OpenCV, GPT Models (Transformers), MERN Stack (MongoDB, Express.js, React.js, Node.js), Scikit-learn, Keras, NLTK (Natural Language Toolkit), Spacy, Fastai, Apache Spark, Hugging Face, Kubeflow, MLflow, ONNX (Open Neural Network Exchange), Ray

**FOSS Tools (Machine Learning, Deep Learning, NLP, MLOps):** Jupyter Notebook, Pandas, NumPy, SciPy, Matplotlib, Seaborn, Plotly, Streamlit, Docker, Kubernetes, Airflow, GitLab CI/CD, Jenkins, DVC (Data Version Control), Prometheus, Grafana

**Skills Demonstrated:** Machine Learning, Deep Learning, Full-Stack Web Development, Natural Language Processing (NLP), Software Development Life Cycle (SDLC), Version Control (Git), Cloud Computing (AWS, Azure), Data Visualization (Matplotlib, Seaborn, Tableau), Problem-solving, Team Collaboration, Critical Thinking, Research and Analysis.

## Projects & Achievements

### **Winners of Arithemania 2.0 Hackathon, Shunya PES University**

*Apr 2023*

Secured first place in "robotics and automation" domain, demonstrating innovative problem-solving skills.

### **Winners of Cisco ThingQbator Hackathon 6.0 , Cisco**

*Nov 2023*

My team was among the winners, demonstrating innovative problem-solving skills.

### **Winners of "SHE-Summit" Ideathon, The Entrepreneurship Club of PES University**

*Mar 2023*

Championed the ideathon competition on "Women Empowerment," showcasing dedication to social causes.

### **Top 10 in "Safe-A-Thon" Hackathon, MahilAI PESU**

*Apr 2023*

Ranked among top 10 teams in a hackathon focusing on "Women's Safety," contributing to community welfare.

### **Potato Plant Disease Classifier**

*Apr 2023*

Developed a deep learning model utilizing CNN algorithm to classify potato plant diseases via leaf analysis, aiming to assist in accurate disease identification for agricultural purposes.

### **Kidney Disease Classifier**

*Apr 2023*

Developed a deep learning model utilizing CNN algorithm to classify various kidney diseases like kidney tumour, cyst, stone obtaining a very high accuracy of 97 percent. Implemented from scratch till deploying and monitoring using MLOps tools like MLflow, DVC, etc.

### **GPT Implementation**

*Sept 2023*

Employed a pre-trained GPT model to generate cohesive text based on user prompts, fostering real-time, context-aware interactions and continuous user engagement through an uninterrupted loop of prompt-based text completions.

### **Neural Network for Synthetic Spiral Data Classification**

*Oct 2023*

This project demonstrates the training and evaluation of a neural network for classifying synthetic spiral data into multiple classes. It includes code for data generation, model architecture, training, hyperpa-

parameter tuning, evaluation, and visualization EVERYTHING FROM SCRATCH using numpy.

#### **Text Summarizer of PDF Data**

*Oct 2023*

Developed an advanced NLP-based text summarizer delivering exceptional results in condensing information effectively. Achieved high-quality output with a demonstrated ability to generate concise summaries, showcasing proficiency in natural language processing

#### **Freelancing Website for College Students (MERN Stack)**

*October 2023*

This project showcases the development of a freelancing website tailored specifically for college students, implemented using the MERN (MongoDB, Express.js, React.js, Node.js) stack. It encompasses various web technologies to create a platform where students can offer and find freelance opportunities, fostering a collaborative environment within the college community.

#### **Mental Health Chatbot**

*July 2022*

This project introduces Klaybot, a specialized chatbot offering empathetic mental health support. Powered by advanced AI technology, Klaybot provides guidance, resources, and a safe space for individuals facing mental health challenges. It emphasizes user confidentiality and offers accurate information and coping strategies. Through AI and natural language processing, Klaybot fosters open dialogue, aiming to promote mental wellness among users.

#### **News Classifier**

*December 2023*

I developed a news classifier achieving an accuracy of 96.7. Leveraging various tools from the Scikit-learn library, including confusion matrix analysis, cross-validation scoring, and accuracy metrics, I utilized powerful models like MLPClassifier and SGDClassifier, along with TfidfVectorizer for text feature extraction, to achieve high precision in classifying news articles

#### **RISC-V CPU Implementation with Path Planning Algorithm**

*November 2023*

Implemented a RISC-V CPU using Verilog tailored to execute a path planning algorithm. Engineered the CPU to extract start and end points, perform intricate computations for path planning, and store resultant node points connecting the start and end points within the data memory

#### **Open Source Stock Market Analysis Software**

*In Progress*

Leading the development of an open-source stock market analysis tool, hoping to impact **10,000+ users** with actionable financial insights. Working on creating algorithms that would achieve more than 99 percent accuracy, leveraging the user's income.

## **Publications, Books Authored & Talks Given**

#### **Workshop on MONAI: Medical Open Network for AI**

*Upcoming on Jan 2024*

Will be co-conducting a workshop on MONAI alongside a senior, addressing a gathering of **approximately 200 students**. Provided insights into leveraging the **Medical Open Network for AI (MONAI)** and its applications in healthcare and medical imaging.

#### **Presented a session on Building a Neural Network from Scratch with Synthetic Spiral Data** *Nov 2023*

Delivered a talk to an audience of **approximately 100 students** covering the theory of neural networks and demonstrating the process of building a neural network from scratch using synthetic spiral data.

#### **Research Paper: Radiation Pollution in Bangalore**

*In Progress*

Investigating radiation pollution and its impact on living creatures. Developing solutions to reduce pollution levels by **30%**.

#### **Medical Knowledge Extraction and Summarization using LLMs**

*In Progress*

Currently spearheading a dynamic team in the development of a comprehensive language model designed to extract and summarize critical information from vast medical records, research papers, and clinical notes. This ongoing initiative aims to improve accessibility and comprehension for healthcare providers and researchers, poised to revolutionize data utilization in the medical domain

#### **Book: Exploring Intelligent Systems: A Holistic Guide to Advanced AI**

*In Progress*

An inclusive guide unraveling Python programming, diverse machine learning algorithms, and cutting-edge AI trends. Fused with humor and insightful memes, this book aims to provide a comprehensive understanding of AI's landscape, encompassing ethical considerations, emerging technologies like GANs and federated learning, and bridging theory with practical implementation. Currently in progress.

## **Certifications**

**Machine Learning Specialization - Stanford University, Coursera**

**Deep Learning Specialization - Stanford University, Coursera**

**Financial Analyst Certification - Udemy**

**Financial Markets - Yale University**

**CS50 - Harvard University**

**Startup School - Y Combinator**

**JPMorgan Software Engineering Virtual Experience - JPMorgan Chase & Co.**