

# Shambhuraj Wadghule

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## Education

**BS in Computer Science (Honors), Minor: Mathematics and Statistics, GPA: 3.6**

December 2022

*Purdue School of Science, IUPUI* ✉️

Dean's List, Scholar's List

Recipient of Highly Prestigious Chancellor's Scholarship, Recipient of Mentoring Scholarship by Department of Mathematics, IUPUI.

**Relevant Coursework:** Data Structures and Algorithms, AI, Database Systems, Operating Systems, Software Design, Advance Calculus, Differential Equations, Cloud Computing, Data Science, Theory of Computation, Compilers Design, Algorithms, Parallel Computing, Computer Networking

## Professional Experience

**Institute for Engaged Learning, IUPUI** ✉️

2019/06 – 2022/12 | Indianapolis, Indiana

*Undergraduate Research Assistant, Web Developer*

- Led a training and tutorial team of 5 students in the development of 4 Virtual Reality Modules for the Additive Manufacturing curriculum at Purdue School of Engineering and Technology.
- Worked in a multidisciplinary environment to collaborate with students to achieve high efficiency in projects.
- Published 2 research papers for the work and submitted two papers for review. Presented the research work at several conferences.
- Collaborated with three different MURI research teams to understand the needs and requirements to showcase the research work effectively on a website.

**Monkeybar Education Private Limited** ✉️

2022/08 – 2022/10 | Remote

*Software Development Associate*

- Oversaw app and website development and fulfilled application demands overlayed by the co-founders.
- Discussed, enhanced, and embedded required functionality with app developers.
- Participated in the conception of the platform-independent application idea in order to provide a learner-friendly app to over 25000 consumers.
- Developed the prototype for the application in Figma single-handedly, summing all the criteria.
- Assisted with app development with Flutter framework to achieve platform independence by utilizing MySQL as a database and hosting the app on AWS.

**Viasat Inc.** ✉️

2022/05 – 2022/08 | Carlsbad, California

*Software Engineer Intern - Full Stack*

- Established backend API and frontend web app to create a full stack application in the End User Experience team at Viasat in an Agile/SCRUM software development environment using JIRA.
- Utilized Javascript on both ends of the stack, Django with ORM features, and jQuery for web page behavior.
- Designed the web application (including UI/UX), taking advantage of ReactJS, jQuery, and Django REST framework.
- Migrated from Grafana to ChartJS for data visualization and analysis. Handled ER design and schema development single-handedly through incremental PostgreSQL migrations.
- Containerized the application using Docker to break down components into microservices and used development containers to speed up the continuous integration aspect.

## Leadership

**Computer Science Teaching Assistant | Department of Computer Science, IUPUI**

2022/01 – 2022/05 | IUPUI, IN

- Held weekly recitation classes for tutoring to help students meet the homework requirements.
- Arranged for struggling students to receive one-on-one coaching and doubt-clearing sessions in order to enhance their academic performance.
- Carried out achievement-based grading to guarantee fair grading and feedback to assist students in overcoming technical obstacles.
- Designed assignments and administered in-class quizzes to assist the teacher.

## Vice President | Cybersecurity Club @ IUPUI

2021/12 – 2022/05 | IUPUI, IN

- Increased membership by 125% through organizing new events such as CTF challenges, lock-picking events, and alumni recruiting events.
- Sourced 5+ alumni to serve as mentors to club members through red-teaming challenges, technical workshops, and other professional activities.
- Developed and managed a daily cybersecurity newsletter distributed to 200+ club members and faculty.

## Math Grader | Department of Mathematical Science, IUPUI

2021/08 – 2022/12 | IUPUI, IN

- Enhanced student learning by optimizing various instructional approaches and innovative classroom sessions.
- Held office hours at Mathematics Assistance Center (MAC) at IUPUI, tutoring 20+ students concurrently.
- Incorporated a growth mindset approach and proactive behavior modification techniques to lead students to understand complicated mathematical concepts.

## Projects

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### Portfolio Website | Django, Docker, GitHub Actions, GraphQL [↗](#)

2022/11 – present

#### Personal Portfolio Website

- Designed and developed a website to showcase independent projects using the Python Django framework.
- Built a CI/CD pipeline for the application using GitHub Actions.
- Containerized application using Docker through automation, with deployment on Python Anywhere Cloud service.
- Modularized the web page creation using the GraphQL API standard to perform CRUD operations in data and Django's ORM and MVT features.

### Exercise Tracker | ReactJS, NodeJS, MongoDB, ExpressJS, Heroku,

2022/01 – 2022/02

#### Insomnia, GitHub [↗](#)

#### Exercise Tracking Full Stack Web Application

- Developed a MERN stack application and retrieved user data from MongoDB NoSQL database to analyze and process it in the app's functioning with increased scalability and functionality.
- Successfully created a REST API with Postman as a testing tool to test the CRUD functionalities.
- Hosted the app on Heroku service and GitHub Pages for flexibility in production to allow for convenient integration and deployment. Upgraded deployment with GitHub Actions and Docker containerization.

### Command line Calculator App | Software Design, SOLID

2021/10 – 2021/12

#### Principles, DSA, Git, OOP [↗](#)

#### Software Design Command Line Calculator App

- Implemented software design techniques by redesigning the calculator app to ensure performance and optimality.
- Incorporated SOLID principles and software design patterns to curate the application and isolate variability.
- Demonstrated the real-world system design aspects by exhibiting highly cohesive nature modules with minimum coupling.

## Skills

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**Programming Languages:** Python, C/C++, Java, JavaScript, C#

**Frameworks:** Django, Flask, React, Express, jQuery, NodeJS (Runtime)

**CI/CD:** Docker, Kubernetes, Jenkins, GitHub Actions

**DVCS:** Git, GitHub, GitLab

**Database:** SQLite, PostgreSQL, MySQL, MongoDB

**Web API:** REST API, GraphQL (w/ Graphene), Postman/Insomnia

**Cloud/Deployment:** AWS (S3, EC2, ECR, ECS), Heroku, Python Anywhere

**Test Driven Development:** PyTest Library

**Agile/SCRUM Development**

**Other:** Apache2, Grafana, PTC Creo, Solidworks, Unity, 3DS MAX & Interactive, Matlab

## Publications

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- "Virtual Reality Module for Additive Manufacturing Curriculum," in 2020 Illinois-Indiana Section Conference Proceedings, Indianapolis, Indiana, USA, 2020, pp. S900-1. [↗](#)
- Developing a Virtual Reality Module to Improve the Student Learning Experience in an Additive Manufacturing Curriculum Paper presented at 2020 ASEE Virtua [↗](#)