Shivam Rastogi

West Lafayette, IN | 765-775-7739 | rastog18@purdue.edu | linkedin.com/in/rastog18 | github.com/rastog18

EDUCATION

Purdue University   Expected Graduation: May 2027
Bachelor of Science in Computer Science, Minor in Mathematics   *West Lafayette, IN*
- **Relevant Coursework:** Analysis of Algorithms, Computer Architecture, Systems Programming, Data Structures and Algorithms, Information Systems, Data Mining & Machine Learning, Database Management, Statistics

TECHNICAL SKILLS

Specializations: Full-Stack Web Development, Blockchain, Computer Vision, Predictive Modeling, Machine Learning, Data Scraping
Languages: Assembly, Python, Java, JavaScript, C++, C, C#, SQL, HTML, CSS, Solidity, LaTeX
Technologies: React.js, Express.js, Flask, MongoDB, TensorFlow, OpenCV, Web3.js, GitHub, Postman, RESTful APIs, Agile/Scrum

Experience

Software Engineer, SignBridge   July 2025 - Present
Computer Vision, MediaPipe, Auth0, REST APIs, BERT, CNN, TensorFlow/PyTorch, Lip-sync API   *West Lafayette, IN*
- Pioneered an automated **ASL-to-speech translation** system by leveraging a Transformer-based neural network and MediaPipe for **real-time gesture recognition**, culminating in a **98.5% accuracy** rate on a 249-word ASL vocabulary.
- Constructed a robust computer vision model using a **Convolutional Neural Network** to process ASL gestures into text, applying buffer optimization that **reduced misclassification** errors **by over 30%** and improved model stability.
- Integrated **Auth0 authentication** and deployed a **lip-sync API** to synthesize synchronized video output with personalized voice generation, reducing video processing latency by 40% (from under 5s to under 3s).
- **Received the "Best Use of Auth0"** at **BoilerMake** Hackathon, an achievement that highlights the project's innovative approach to user authentication and facial recognition, which streamlined the **user validation process by 60%**.

Software Development Intern, XLByte   June 2024 – August 2024
MVC Architecture, HTTP, AJAX, MongoDB, LINQ, RESTful APIs   *Bangalore, India*
- Developed a full-stack College Directory platform, integrating grading systems to serve **40,000+ students**
- Engineered a scalable **MVC framework**, using MongoDB as a backend and LINQ for data manipulation to achieve a **25% reduction in code complexity** across all new feature implementations.
- Improved front-end performance by optimizing RESTful API endpoints and implementing dynamic AJAX calls, reducing **First Contentful Paint** from 2.8s to 1.3s and **Last Contentful Paint** from 4.2s to 2.5s.

Mobile App Developer, Virtually Integrated Projects Learning Community   January 2024 - May 2024
Android Studio, Kotlin, K-Nearest Neighbors, Logistic Regression, Otsu Thresholding, Image Processing   *West Lafayette, IN*
- Built a **resistor-analysis** mobile app used by over **10,000+ engineering students and individuals with color blindness**, offering real-time resistance calculations using camera input.
- Achieved 93%+ classification accuracy by applying **KNN** and **logistic regression** for color prediction.
- Conducted user testing with 100+ participants, which **increased user satisfaction** by 20% and led to higher adoption among target users.

Projects & Leadership

Software Engineering Team Lead, Hack the Future   August 2024 – Present
MongoDB, Express, Node.js, React, Agile, Scrum, GitHub, MERN Stack, Test-Driven Development (TDD)   *West Lafayette, IN*
- Spearheaded a scrum team of 10 developers to deploy a full-stack **MERN-stack inventory management system**, leveraging **Agile methodologies** and Test-Driven Development, which led to a **30% reduction** in development time.
- Accelerated development by integrating modern AI tools like **GitHub Copilot** for real-time code suggestions and **CodeQL** for automated security analysis, enabling faster iterations and reducing debugging time by **25%**.
- Engineered a predictive resource allocation model using **linear regression** to analyze historical inventory data, which proactively anticipates future needs and improves **resource allocation by 30%**.
- Deployed our inventory system for **SFSL**, improving food tracking across 15 villages, cutting stock errors by 35%, and helping serve 2,500+ food-insecure individuals monthly.

Course Lecturer, Blockchain   August 2024 – Present
Ethereum, Solidity, JavaScript, Ether.js, Web3.js   *West Lafayette, IN*
- Instructed a semester-long blockchain development course for **200+ students**, combining Ethereum foundations with hands-on smart contract programming using **Solidity**, **Hardhat**, **Remix**, **Foundry**, and **MetaMask**.
- Created weekly modules with live demos, labs, and team-based projects, including a **MetaMask-based attendance system** and a **token vending machine**, emphasizing security, gas efficiency, and real-world deployment.
- Guided students in Git-based workflows, **smart contract testing**, and final capstone projects, culminating in fully **deployed dApps** showcasing both technical depth and collaborative development.