

Shruti Varade

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EDUCATION

University of Massachusetts, Boston, MA | Master of Science in Computer Science | GPA 3.88/4 Sept 2022 - May 2024
[OODP - UML, Design Patterns, OOSD - Stream API, Concurrency, Analysis of Algorithms, User Interface Design, Comp. Graphics]
Teaching Assistant at UMass, Boston for courses such as 'Introduction to Computing using Python' and 'Programming in C'.
University of Mumbai, Mumbai, India | Bachelor of Engineering in Computer Engineering | GPA 8.32/10 June 2016 - May 2020
[Machine Learning, Artificial Intelligence, Cloud Computing, Database Management System, Data Structures, Operating System]

SKILLS

Frontend: HTML, CSS, JavaScript (ES6+), UI/UX React.js, Streamlit.py, Bootstrap, xtk.js, Three.js and WebGL
Backend: Java (JUnit 5, Apache Ant), Python (Django, Flask), Express.js Node.js, C/C++, RESTful API, JSON, XML
Databases: MySQL, PostgreSQL, MongoDB, AWS cloud storage Solutions
Development Tools: Git, GitHub, IntelliJ, PyCharm, VS Code, Agile, and Scrum methodologies.

EXPERIENCE

Machine Psychology Fellow, UMass Boston, MA | Software Engineer (Research Fellowship) May 2023 – Present
- Conduct research on web-based processing module for data visualization, machine learning on the web, LLM and Image Filtration.
- Present project findings and research at various hackathons and conferences, showcasing the application of ML in web-based modeling and paper presentations on novel machine psychology methodologies.
TATA Consultancy Services, Mumbai, India | System Engineer Sept 2020 – June 2022
- Planned and built SBI's CRM webpages using Java and JavaScript, following SDLC guidelines, which led to a 20% improvement in how users interact with the software and set up RESTful APIs and SQL to make data access and automation smoother.
- Used Git to keep code consistent and support teamwork across different groups.
- Conducted thorough unit testing to ensure about 95% of the software was tested, cutting down bugs by half. Also used ATLASSIAN tools for project records and guided interns to improve their skills in building and fixing full-stack applications.

PROJECTS

BOOSTLET.js | Web-based Image Processing Library | JavaScript [\[Link\]](#)
- Introduced *Boostlet.js*, a versatile web plugin that enhances medical imaging analysis by working with frameworks like *Cornerstone.js*, *Niivue.js*, *Openseadragon.js*, *xtk.js* and *papaya.js* offering an upgrade to existing image visualization capabilities.
- Applied cutting-edge image processing algorithms for data visualization, image filtration, LLM and Machine Learning on the web.
- Enhanced automated testing using Puppeteer and GitHub Actions, ensuring high fidelity image processing.
BoxCraft.js | Widget library | JavaScript [\[Link\]](#)
- Built a JavaScript library that allows simple and accurate selection of areas on web pages and graphics making it easier for users.
- Integrated the widget library into *Boostlet*, ensuring uniform region of interest selection across various libraries for the SAM model.
GuideGenie | Web Application for Machine Learning model | Python [\[Link\]](#)
- Developed a web-based recommendation system that seamlessly connects researchers with professors who share their interests.
- Leveraged Gemini LLM embeddings, cosine similarity for generating word embeddings deployed NLP-based model on the web using Streamlit.py, an open-source Python framework.
FITNESS METRICS DASHBOARD | Web Application using Django | Python [\[Link\]](#)
- Developed a web application offering users a dynamic interface with Django, Chart.js and PostgreSQL to visualize and monitor fitness progress including step count, calorie burnt, distance and workout time.
- Enhanced deployment by integrating Docker, cutting setup time in half, minimizing environment related errors by 70%.

PRESENTATIONS

Presented GuideGenie at **BostonBridge Hackathon 2024** | University of Massachusetts, Boston
Presented Boostlet at **BrainHack 2023** | MIT, Boston
Presented Boostlet at **Niivue Hackathon 2023** | University of South Carolina, Columbia

Stem OPT Eligible