Shravan Goswami

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Education

Uka Tarsadia University (UTU), Bardoli, Gujarat, India — 2022 – 2026 (Expected)
Bachelor of Technology in Computer Science and Engineering
CGPA: 8.04/10.0, SGPA: 8.90/10.0 (6th Semester)

Research Experience

Research Assistant (Remote), Machine Learning Group, University of Cambridge — May 2024 – Present
Mentor: Prof. Hong Ge

- Implemented new visualization tools in `MCMCChains.jl`, including Violin, Energy, and Prior/Posterior Predictive Check (PPC) plots (see contributions).
- Developed and maintained the official websites for the Turing Ecosystem and the Machine Learning Group.
- Automated the publication website generation from a unified BibTeX source using Quarto listings and Python.
- Developed Turing Actions: 'DocsDocumenter' and 'DocsNav' for automatic building of 'Documenter.jl' documentation and injecting custom navigation bar.
- Contributed to a benchmarking system for `DynamicPPL.jl` (PR #346).

Research Assistant (Remote), Vectorly LLC — Aug 2024 – Nov 2024
Work conducted as part of research contract with MLG, University of Cambridge.

Software Development Experience

Google Summer of Code Contributor, The Julia Language — May 2025 – Sep 2025
Project: DoodleBUGS

- Engineering a full-stack graphical interface for the BUGS (Bayesian Inference using Gibbs Sampling) language, enabling users to visually construct, interact with, and analyze probabilistic models.

SDE Intern, National Technical Research Organisation (NTRO) — Apr 2025 – Nov 2025

- Developed and implemented security automation scripts using C# and PowerShell to enforce system hardening policies in a confidential, onsite environment.

Writing Experience

Technical Content Writer (Remote), GeeksforGeeks — Jan 2024 – Jan 2025

- Authored 23+ technical articles covering a diverse range of topics from fundamental algorithms to advanced framework usage, available at my [GeeksforGeeks contributions page].

Research Interests

My primary research interests lie in the field of Probabilistic Machine Learning, with a focus on developing scalable and user-friendly tools for Bayesian inference. I am particularly interested in Probabilistic Programming Languages (PPLs), Bayesian deep learning, and the application of these methods to solve complex problems in scientific computing and data analysis.

Preprints & Manuscripts

[1] **Shravanpuri Goswami** and Happy. **A Comparative Analysis of Deepfake Detection Methods for Secure Digital Communication**. In preparation. First author. 2025.

[2] Ayaan Shaikh, Dhruvi Patel, Vansanth Sunkara, **Shravanpuri Goswami**, and Dr. Vishvajit Bakrola. **Hibiscus Image Dataset: A Lightweight Dataset for Flower Species Classification**. In preparation. 2025.

Peer Review Experience

[3] Umar Islambekov and Aleksei Luchinsky. **TDAvec: Computing Vector Summaries of Persistence Diagrams for TDA**. [Review]. 2025. URL: https://github.com/openjournals/joss-reviews/issues/8532.

[4] Xue Quan and Antoine Levitt. **MatrixFuns.jl: A Julia package for evaluating matrix functions**. [Review]. 2025. URL: https://github.com/openjournals/joss-reviews/issues/8396.

Talks & Presentations

[5] **Shravanpuri Goswami**. **DoodleBUGS: A Graphical Interface for BUGS Models in Julia**. Presented at the Research Department, AMTICS, Uka Tarsadia University. July 2025.

Technical Projects

MLG Cambridge Website & Publication System [Site] [Publications]
Developed and engineered the official website and automated, BibTeX-driven publication system for the Machine Learning Group at Cambridge University, enhancing content management and accessibility. I have prepared a template for same with MIT License, feel free to use it: quarto-academic
Python, Quarto, EJS, CSS, Shell Scripting

Turing.jl Website, initial docs setup and Turing Actions (DocsDocumenter and DocsNav) [GitHub] [Live]
The official website for Turing.jl, the leading probabilistic programming language in Julia. Currently a maintainer. Includes initial Docs setup and Turing actions (DocsDocumenter and DocsNav).
Quarto, EJS, SCSS, Shell Scripting, HTML, CSS, JavaScript, GitHub Actions

DoodleBUGS [GitHub] [Live]
A graphical tool for visually constructing models for the BUGS (Bayesian Inference using Gibbs Sampling) language. Features include direct code generation from drawn DAGs, model export (PNG, SVG, JSON), and backend integration for running models and visualizing results.
Vue.js, Vite, TypeScript, Julia

Techolics_ - Smart India Hackathon 2024 [GitHub]
A Windows application to generate and manage customized Group Policy Objects (GPOs) aligned with CIS security benchmarks.
.NET, C#, WPF

ReWear (Vibecoded with Gemini 2.5 Pro) [GitHub]
A full-stack web application for users to exchange pre-owned clothing, featuring a dedicated admin panel for managing users and listings.
Next.js, React, Tailwind CSS, Local JSON file (database)

Portfolio Website [GitHub] [Live]
Personal portfolio built with the Astro Paper template to showcase articles, projects, and skills.
Astro, Vue.js, Pagefind (Now moving to Quarto)

Social Media Feed [GitHub] [Demo]
A Django-based web app with user authentication, posts, likes, comments, and user profiles.
Python, Django, HTML, Bootstrap

ES-Project [GitHub] [Live]
UI project for National and International Wildlife acts wiki

Awards & Achievements

- **Google Summer of Code (2025):** Selected for the prestigious, global open-source program to contribute to The Julia Language scientific computing ecosystem.
- **Smart India Hackathon (2024) Finalist:** Led a team to the final round of India's largest national hackathon, developing a security tool for the National Technical Research Organisation (NTRO).
- **UTU Shark Tank Winner (2023, 2025):** Awarded first place twice at an inter-university startup pitch competition.
- **Codeforces Max Rating: 1247 (Pupil):** Achieved Pupil rating in competitive programming contests.
- **International Mathematical Olympiad Gold Medal:** Awarded at the state level (9th Grade).

Technical Skills

- **Languages:** C++, Python, Julia, JavaScript, TypeScript, HTML, CSS, Shell/Bash
- **Frameworks & Libraries:** Turing.jl, MCMCChains.jl, DynamicPPL.jl, Django, Quarto, Vue.js, Flutter, Documenter.jl
- **Developer Tools:** Git, GitHub Actions, VS Code, Docker, Sublime Text

Links

GitHub | LinkedIn | CodeForces
AtCoder | Website | X/Twitter

Extra-Curricular Interests

- **Philosophy:** Nietzschean and Platonic Philosophy
- **Cinema:** Films by Fincher, Villeneuve, Tarantino, Scorsese, and Spielberg
- **Manga / Literature:** One Piece by Eiichiro Oda, Greek and Vedic History