

WORK EXPERIENCE

Research Assistant — University of Cambridge (Remote)

(Mentored by Professor Hong Ge)

May, 2024–Nov, 2024
<https://mlg.eng.cam.ac.uk/hong/>

- Integrated documentation and website; added jq-based cross-site search. Automated team page updates with EJS and YAML. Created a global navigation bar with bash scripts for Turing's Documenter.jl-based documentation.
- Optimized CI/CD pipeline with GitHub Actions, reducing build time from over 1 hour to 1 minute 45 seconds through caching and versioning using bash scripts. See the results live at turinglang.org.
- Redesigned and developed the Machine Learning Group's website at Cambridge University.
- Automated the generation of the Machine Learning Group's website at Cambridge University.
- Automated the Machine Learning Group's publication site at Cambridge University, generating author, topic, and year-wise listings from a single BibTeX file. Received credit in the footer: mlg.eng.cam.ac.uk/#footer.
- Skills Gained:** Quarto, Python, Shell Scripts, EJS, GitHub Actions, TypeScript, Turing.jl, CI/CD Pipelines, Julia.
- Current Work:** Developing DynamicPPL Benchmarking system and Improving the MCMCChains.jl package and TypeScript-based probabilistic programming tools.
- Internship Duration:** Originally 3 months, extended to 6 months due to project impact.

Research Assistant — Vectorly LLC (Remote Internship)

Sep, 2024–Nov, 2025

- My initial 3-month research assistant role at Cambridge University was extended by an additional 3 months, involving responsibilities with both the University and its spin-off, Vectorly LLC.

Technical Content Writer — GeeksforGeeks (Remote Internship)

Jan, 2024–Jan, 2025

- Published more than 23 Technical Articles and Improved 2 Articles.
- Article Domains: Python (10), C++ (3), Git (3), R (2), Django (1), JavaScript (1), Julia (1), Others (2)
- You can find all my articles here — <https://auth.geeksforgeeks.org/user/shravangoswami/articles>

ACHIEVEMENTS

- Smart India Hackathon 2024 Finalist (SIH'24 Finalist)**
 - We worked on WPF & Dotnet based Windows Hardening Application
 - Developed a standalone executable (.exe) that can create, edit & manage GPO's on Windows.
- UTU Shark Tank 2023 Winner
- International Mathematical Olympiad State Level Gold Medal (9th Standard)
- Featured on the website of the esteemed Cambridge University (See Footer)

TECHNICAL PROJECTS

MLG Cambridge website — [Link](#) | **MLG Publications website** — [Link](#) | Python, Quarto Aug '24–Oct. '24

Turing.jl website — [GitHub](#) | **Turing.jl docs website** — [GitHub](#) | Quarto, Shell, EJS, SCSS June '24–July '24

Social Media Feed App — [GitHub](#) | Django, Python, HTML, CSS, JavaScript, SQLite3 4th Sem. — 2024

You can find all my projects here: shravangoswami.com/projects

SKILLS	LINKS
Technical: C++, Python, Julia, HTML, CSS, JS, TypeScript, Shell/Bash Scripting (sed, awk, grep, jq), GitHub Actions	GitHub: shravangoswami
Language: English, Hindi, Greek (Elementary)	LinkedIn: shravangoswami
Frameworks & Packages: Django, Quarto, ReactJS, Franklin.jl, Flutter (Learning), Documenter.jl	CodeForces: shravangoswami
Tools: VS Code, Git, Sublime Text	AtCoder: shravangoswami
OS Familiarity: Ubuntu (WSL) & Windows	Website: shravangoswami.com
	X/Twitter: shravangoswami
	<i>Not quite active on social media!</i>

EDUCATION

Uka Tarsadia University (UTU), Bardoli, Surat—Gujarat

Bachelor of Technology in Computer Science and Engineering

2022–2026

SGPA: 8.53, CGPA: 7.71

Extra-Curricular Interests: Nietzschean and Platonic Philosophy and Films (Fincher, Tarantino, Scorsese, Spielberg)

Smart India Hackathon 2024 Finals Project

Project Title: Tools and Techniques for Customization of GPO as per CIS Guidelines to Deploy on Offline / Standalone Windows

Solution Achieved: We developed a standalone executable app capable of managing Group Policy Objects (GPOs). Below are the details of the project:

Frontend Overview: The frontend of the application is designed as follows:

- **Main Window:**
 - Displays system details such as:
 - Windows Version (e.g., 10/11, Home, Education, Pro, Enterprise)
 - Machine Details (Standalone/Domain)
 - Current User Name
 - Profile Selection (L1, L2, BL, L1+BL, L2+BL)
 - Current Time
 - Two buttons for **Audit** and **Config** operations.
 - **Policy Explorer Window:**
 - Contains a Policy Explorer on the left pane, with:
 - Policies displayed in the center pane.
 - Policy documentation on the right pane.
 - Logs at the bottom of the center pane.
 - Includes buttons for the following actions:
 - **Audit**
 - **Audit All**
 - **Config**
 - **Config All**
 - **Edit**
 - **Revert**
 - **Create GPO**
 - **Customize GPO**
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Backend Overview: The backend operates as follows:

- **Phase 1:**
 - Based on our initial research, we developed an app capable of auditing, configuring, and customizing the current system using the following methods:
 - **SecEdit:** Utilizing the **secedit** tool, which is available by default on all Windows systems.
 - **Registry Edit:** Modifying registry values for policies that support registry-based configuration.
 - **PowerShell GroupPolicy Module:** Directly interacting with the GroupPolicy Module (this is available only for Windows Pro, Enterprise, and Education versions).
 - **Phase 2:**
 - During a mentoring session, we were advised to create GPOs that could be imported to standalone systems using **LGPO.exe**, a tool provided by the Microsoft Security Compliance Toolkit.
 - After researching how GPOs work and determining which GPOs are compatible with **LGPO.exe**, as well as understanding folder structures and metadata requirements, we implemented the **Create GPOs** feature.
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Challenges and Achievements:

- **GPO Creation:**
 - The implementation of the GPO creation feature was a significant challenge and took almost the entire night of the hackathon. However, we successfully completed it and presented it during the morning evaluation session.
 - The judges were impressed with our progress and the feature we developed overnight.

I don't know why we didn't win, but I learned a lot of things in this process, and I am happy about it!