

Shristi Shrestha

PhD Candidate, Computer Science and Engineering, Louisiana State University

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SUMMARY

PhD Candidate and former software developer researching how Large Language Models (LLMs) can address the needs of mobile app users and developers. I apply NLP, qualitative analysis, and statistical methods to app store policy, user feedback, and developer workflows. I am a co-author of 5 peer-reviewed publications (ACM TOSEM, IEEE Software, ASE Journal) with prior industry experience in building production web and mobile applications.

TECHNICAL SKILLS

Languages: Python, Java, Kotlin, JavaScript (ES6+), SQL, Dart

AI & Research: NLP (NLTK), Prompt Engineering and Evaluation (Chain of Density, Chain of Thought), Agentic Reasoning, Static Code Analysis, LangChain, Qualitative Analysis, Statistical Analysis (ANOVA, Regression, Normality and Equal Variance tests, Non-parametric tests)

Backend & Blockchain: SpringBoot, Microservice architecture, Cardano Blockchain, RESTful API design, Node.js

Frontend & Mobile: ReactJS, Next.js, Flutter (SDK), Chrome Extension development (JS), HTML5/CSS3

Cloud & Tools: Firebase (Auth, Functions), Figma (UI/UX), Docker, AWS (S3, Lambda, ECS)

Databases & Search: PostgreSQL, MongoDB, Firebase (Firestore), Vector embedding and search for RAG, Elasticsearch

PUBLICATIONS

- **From Policy to Practice: An Investigation of the Apple App Store Account Deletion Requirements**
S. Shrestha and A. Mahmoud. *IEEE Software*, 2026.
Audited 50 iOS apps over 8 weeks and interviewed 14 developers to evaluate compliance with Apple's 2022 account-deletion policy; found persistent dark patterns (confirm-shaming, obstructive discovery, hidden information) 3 years into enforcement.
- **Leveraging GPT-4o to Evaluate the Usability and Accessibility of Flutter App Interfaces**
S. Shrestha and A. Mahmoud. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 2026.
Built FUEL, a GPT-4o-powered tool that reviews Flutter source code for usability and accessibility issues and generates actionable code fixes; validated with 15 developers reviewing real app screens.
- **Automatic Summarization of Mobile Application Reviews using Chain of Density Prompting**
S. Shrestha and A. Mahmoud. *Automated Software Engineering Journal (ASEJ)*, 2025.
Adapted Chain-of-Density prompting to summarize 37,000+ app reviews into fixed-length, mobile-readable summaries; achieved 81% entity recall (vs. 60-64% baselines), validated in a 48-participant readability study.
- **No Country for Indie Developers: A Study of Google Play's Closed Testing Requirements for New Personal Developer Accounts**
G. Shrestha, S. Shrestha, and A. Mahmoud. *ACM Transactions on Software Engineering and Methodology (ACM TOSEM)*, 2025.
Mixed-method study (897 Reddit comments + developer survey) on Google Play's closed-testing requirement; found indie developers turning to paid tester marketplaces and reporting the policy favors well-resourced developers.
- **Generating Rate Features for Mobile Applications**
S. Shrestha and A. Mahmoud. *Proceedings of the IEEE/ACM International Conference on Mobile Software Engineering and Systems (ICSE MobileSoft)*, 2024.
Built an unsupervised LLM pipeline that extracts concise 'Rate Features' from 167,000 app reviews; top-3 features recalled 95-100% of user goals. Proposed Rate features to nudge users to leave informative reviews and to help users select the best app that fit their needs.

PROFESSIONAL EXPERIENCE

Sireto Technology

Full-Stack Software Developer | 2019 - 2022 (full-time)

- NFT e-commerce (Artano): Engineered 4 core microservices (Cardano transaction provider, KYC, NFT minting, and purchase tracking) using SpringBoot and Kotlin.
- Rapid RESTful API deployment: Delivered the initial API suite for Artano within 3 months to enable high-speed frontend integration, running two-week sprints for feature testing and integration.

- Revenue optimization: Implemented a 'sniping' feature for NFT bidding that boosted bidding placement by 30% in 43% of art sales.
- Asynchronous UX strategy: Co-engineered a Socket-based notification system (SpringBoot/Kotlin) for real-time Cardano transaction updates; a closed study of 10 customers showed a 60% increase in users moving to the next art sale instead of idling on loading screens.
- Privacy-focused Form Builder: Built a form configuration interface and responsive previewer (mobile/tablet/desktop) in ReactJS, featuring field-level encryption and a privacy switch for granular data-visibility control.
- UI design & prototyping: Used Figma to redesign the form builder, adding a form-managing directory, input validators, pageable mobile views, and customizable form branding.

Software Developer Intern | Nov 2019 - Jan 2020 (full-time, 3 months)

- Static code analysis: Audited an existing Java/SpringBoot project over 8 weeks and documented vulnerabilities via GitHub Issues, covering exception handling, memory management, and correctness of database queries and session authentication.
- Password Manager: Built a JavaScript password wallet browser extension with rule-based URL pattern matching and an automated hint generator for credential autofilling.

EDUCATION

Ph.D. Candidate in Computer Science, Louisiana State University

Baton Rouge, LA, USA | 2022 - present | GPA: 3.91

Dissertation title: "Leveraging Large Language Models to Enhance the Utility of Mobile App Store Rating Systems"

Bachelor in Computer Engineering, Tribhuvan University, Pulchowk Campus

Lalitpur, Nepal | 2015 - 2019 | GPA: 3.75

TEACHING EXPERIENCE

Louisiana State University

Graduate Teaching Assistant | 2022 - present

- Technical mentorship: Conducted a 3-hour Git and GitHub workshop for 48 senior-year CS students, covering merge conflict resolution, repository management, and progress tracking through GitHub projects and issues.
- Evaluation and rubric design: Assessed senior-year capstone deliverables (market analysis, system design specs, unit/integration test reports) with quantifiable rubrics to objectively measure individual vs. group contributions.
- Curriculum support: Assisted in grading senior-year CS exams for Software Systems Design and Programming Languages, focusing on architectural patterns and language structures.

Programming Lab Assistant | Fall 2023

- Java instruction: Supervised 2 weekly lab sessions (1.5 hours each) for 32 first-year undergraduate students in the "Introduction to Java" course.
- Code debugging: Provided hands-on assistance debugging logic errors, implementing OOP principles, and maintaining coding standards (variable naming, exception handling, readable comments).

PROFESSIONAL SERVICE

Poster Reviewer

- Interaction Design and Children (IDC) 2026
- The ACM Conference on Intelligent User Interfaces (IUI) 2026

Full Paper Reviewer

- The European Conference on Information Systems (ECIS) 2026
- The ACM CHI Conference on Human Factors in Computing Systems 2026
- The Annual Pacific Asia Conference on Information Systems (PACIS) 2026