

Pratishtha Sharma

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SUMMARY

MSc Software Engineering graduate with experience spanning research, teaching, mobile and web development, analytics, machine learning, and community leadership. Strong background in building usable software, organizing academic and technical initiatives, and communicating across technical and non-technical audiences. Interested in presenting a complete record of research, internships, projects, leadership, and creative contributions from undergraduate and graduate studies.

SKILLS

Programming: Python, SQL, C#, C/C++, Dart, Java, HTML/CSS, JavaScript

Frameworks & Tools: Flutter, Firebase, Flask, React, Node.js, Express, Streamlit, Unity, Docker, Git/GitHub, Jira, Postman, QGIS

Data & Analytics: Power BI, Excel, Data Cleaning, ETL Pipelines, KPI Reporting, Data Validation, Machine Learning, Data Mining

Platforms & Databases: PostgreSQL, MongoDB, SQL Server, Hadoop, Hive, Spark

Creative & Communication: Adobe Photoshop, Graphic Design, Workshop Coordination, Mentoring, Public Speaking, Documentation

EXPERIENCE

Research Assistant, ETHEREAL Research Lab, University of Calgary

Sep 2023 – Dec 2025

- Led development of HapTechBoard, a multiplayer AR letterboard with haptic feedback using Unity, C#, and Vuforia for accessible XR interaction.
- Collected, curated, and validated interaction datasets; built replay and logging tools to troubleshoot behavior and verify outputs.
- Developed SAGE, a statistical intent-inference model trained on 350k+ time-series samples to predict missed XR tap intent.
- Collaborated with technical and non-technical stakeholders to refine workflows, interpret findings, and support research methods.

Teaching Assistant, University of Calgary

Sep 2023 – Dec 2025

- Led labs and tutorials across Big Data Analytics, Software Design, Computer Organization, and professional engineering coursework.
- Supported grading, tutorial design, student troubleshooting, and concept delivery across big data tools, databases, software design, and data warehousing fundamentals.

App Development Intern, Athabasca University (Mitacs Globalink Program)

May 2022 – Dec 2022

- Built Flutter and Dart interfaces for trip creation, itinerary viewing, and saved trip workflows for the m-FieldTrip application.
- Implemented Firebase authentication and validated user-input workflows for reliable capture, storage, and retrieval of trip information.
- Integrated QGIS geospatial datasets to support location-based field trip content across Alberta.

Deep Learning Intern, Pucho Digital Health Inc.

Mar 2022 – May 2022

- Worked on digital health and biotechnology problems related to wearable-device data and Long COVID.
- Reviewed 40+ research papers and performed data mining to support health-oriented research exploration.

Machine Learning Intern, Utrecht University, Netherlands

Aug 2021 – Dec 2021

- Worked on machine learning for X-ray spectroscopy under the Debye Institute for Nanomaterials Science.
- Reviewed literature, structured scientific data, and built Python pipelines for XANES analysis and modeling.

OPEN SOURCE & COMMUNITY PROGRAMS

Mentor, GirlScript Summer of Code

Mar 2022 – Jun 2022

- Mentored contributors on ML-focused open-source repositories and guided learners through project-based implementation work.

Supervisor, GirlScript Winter of Contributing

Sep 2021 – Dec 2021

- Supervised contributors for Flutter and Android development resources in a multilingual technical repository initiative.

Mentee, PClub Summer of Code

Jul 2021 – Sep 2021

- Built a personality prediction project under mentor guidance and strengthened project development and deployment skills.

Contributor, DevIncept Contribution Program / LGM-SOC

Jun 2021 – Aug 2021

- Contributed to open-source Flutter(health and food repos) and ML-based projects while learning collaborative development practices.

SELECTED PROJECTS

SAGE — Intent Inference from Hand-Tracking Time-Series (Python)

- Built an intent-inference pipeline to recover likely targets from hand-motion signals during missed taps.
- Automated preprocessing, evaluation, and plots to compare methods and investigate failure cases.

HapTechBoard — AR Letterboard + Multiplayer Logging (Unity/C#, MRTK3, OpenXR, Vuforia)

- Developed an XR letterboard for HoloLens 2 with structured logging for usability studies and analysis.
- Built a shared multiplayer AR experience and improved interaction reliability through iterative testing.

Health Predictor - Mobile App + ML API (Flutter, Firebase, Flask)

- Built a health-risk predictor with two model tracks: scikit-learn (stroke prediction) and a PyTorch neural network (diabetes prediction) with 90%+ accuracy, and exposed predictions via a Flask REST API for mobile clients.
- Built Flutter UI for input + results; integrated Firebase OAuth and validated form flows for consistent, reusable data capture.

PASSit - Full-Stack Web App (MongoDB, Express, React, Node)

- Built a MERN social platform with authentication and role-based access; designed schemas/APIs with validation and error handling.
- Tested end-to-end user flows (auth, posting, permissions, failures) and improved reliability through iterative fixes and refactors.

PDF Summarizer - RAG Document Q&A (Python, Streamlit, Qdrant, OpenAI, LlamaIndex)

- Built a PDF Q&A app using RAG with OpenAI embeddings and LLM answers grounded in retrieved document chunks.

- Implemented extraction, chunking, embedding generation, and Qdrant (Docker) vector storage for fast semantic retrieval.
- Developed a Streamlit UI for uploads and real-time queries, returning source-grounded responses from document content.

E-Commerce Delivery Performance Analysis (SQL Server, Python, Power BI)

- Built an ETL-style SQL Server layer (views + data quality checks) for delivery/cost KPIs on **96,386** orders.
- Performed EDA and Machine Learning in Python to quantify delivery performance (late delivery rate: ~**8.1%** by ~**12.5 days**).
- Trained a baseline late-risk model and delivered a **4-page** Power BI dashboard with KPI scorecards and their visualizations.

Banking Customer Insights & Reporting (SQL Server, Python, Power BI)

- Queried SQL Server (SSMS) and shaped tables into analysis-ready views for segmentation and KPI reporting.
- Ran Python EDA (distributions, banding, correlations) to validate trends and support stakeholder-ready insights.
- Delivered a Power BI dashboard with interactive filters to compare segments and communicate results.

EDUCATION

University of Calgary

Calgary, AB

MSc, Software Engineering (Thesis) / CGPA: 4.00/4.00

Sep 2023 – Dec 2025

- Thesis: *Enhancing AR Letterboards for Nonspeaking Autistic People via Haptic Feedback and Intent Inference.*
- Coursework: Data Mining and Machine Learning, Image Analysis, QA Testing, Extended Reality.

Banasthali Vidyapith

Rajasthan, India

BTech, Computer Science Engineering / CGPA: 9.23/10

Jul 2019 – Jun 2023

PUBLICATIONS

- [Towards an Augmented Reality Agent to Support Communication for Nonspeaking Autistic Individuals](#)
- [AR-Based Embodied Avatar Assistance for Nonspeaking Autistic People? Design and Feasibility Study](#)
- [FTASD - A Fine Tuning Approach for Stable Diffusion Models](#)

LEADERSHIP & CAMPUS INVOLVEMENT

- **MAYUKH'23 Workshop Coordinator** – Managed a 15-member team to plan and deliver workshops for 15,000+ university students, coordinating schedules, registrations, speaker communication, logistics, and cross-team execution in a fast-paced event setting.
- **Graphic Designer, HackerEarth-Hub Banasthali Vidyapith** – Designed posters, promotional materials, and digital assets for technical events, strengthening visual communication, branding, audience engagement, and deadline-driven content delivery.
- **Creative Team Member, LeanIn Banasthali Vidyapith** – Supported outreach and creative planning for mentoring and technical learning initiatives, contributing to event promotion, collaboration across student teams, and community-focused communication.
- **Campus Ambassador, LetsGrowMore** – Promoted open-source participation among students through peer outreach, initiative sharing, and guidance on contribution opportunities, building skills in advocacy, communication, and student engagement.

AWARDS & CERTIFICATES

- Graduate Mitacs Fellowship Award, 2023 – 15,000 CAD.
- Selected for the fully funded Mitacs Globalink Research Internship Program, 2022.
- Selected for Google ExploreCS Research Program, 2022, in Data Mining and Modeling at IIT Gandhinagar.
- Finalist, LeanIn Hacks inter-university hackathon.
- IBM Data Analysis with Python (Coursera).
- Top certified contributor across multiple open-source programs in AI and Android development.

EXTRA-CURRICULAR ACTIVITIES

- Certificate course in RJing and Anchoring at Radio Banasthali 90.4 MHz.
- Winner in school-level art and drama competitions.