Prerana Khatiwada

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EDUCATION

- **University of Delaware** — Newark, Delaware, United States
  PhD in Computer and Information Sciences ; GPA: 3.83 — *August 2021 - Present*
- **Kathmandu University** — Dhulikhel, Nepal
  Bachelor of Computer Engineering ; GPA: 3.78 — *August 2015 - December 2019*

SKILLS SUMMARY

- **Languages/Tech Stack**: Html/Css,C, C++, Python, PHP, JavaScript
- **Python Packages**: Scikit-Learn, Nltk, Pandas, Numpy, Matplotlib, Jupyter
- **Frameworks/Libraries**: Angular JS, .NET Framework, React Redux, Telerik & Kendo UI, Laravel
- **BI Tools**: Looker, OBIEE, BI Publisher,Tableau
- **HCI Skills**: Thematic Analysis, Figma, Canva, Qualtrics Survey Design, Semi Structured Interviews, Usability Testing, Wireframing, Prototyping, Observational Study, Google Analytics, Dedoose , NVivo, User flows, Mockups, XLSTAT, Sketch, Mobile Web Design, User-Centered Design, Integrating User Feedback, Design Thinking, SDLC, Contextual Inquiry, Customer Journey Mapping
- **Other Tools**: Git,Github, JIRA, Slack, Weka, Confluence, ALM, Winscp, Putty, Visual Studio, Pycharm, Postman,LATEX,R Studio

PAPER/PUBLICATIONS

- **"Toward Browser-based Interventions to Tackle Misinformation Online" ACM SIGCHI 2022 Designing for Mis/Disinformation Workshop**, 2022 Community Comm

EXPERIENCE

- **University of Delaware** — Newark,Delaware
  Teaching Assistant — *August 2021 - Present*
  - **Duties**: Helping over 45 students with the Course Advanced Web technologies CISC474 and Machine Learning CISC684

- **University of Delaware** — Newark,Delaware
  Research Assistant — *August 2021 - Present*
  - Developing mixed-initiative, crowd-powered system to tackle misinformation online that can help semi-automatically assess online fake news and misinformation as well as deliver interventions to increase user hardiness against these threats.
  - Analyzed qualitative data of 33 responses, patterns and connections, compared gap between expectations and real user browsing behaviours.
  - Background in 3 UX research methods:qualitative, quantitative, and mixed method.
  - Participated in survey Design using Qualtrics, Survey Monkey, Google Forms and other tools as needed and transcribed 15 interviews to understand what kind of interactions people have with misinformation.
  - Preparing low-fidelity prototypes of UI (ranging from paper-and-pencil concepts to wireframes or prototypes) to high-fidelity designs/ mockups of UI, and high-fidelity visuals for the features with a team of 3 members.
  - Recruited about 35 Participants for the study.
  - Participating in User Experience Design activities such as Usability Testing, Semi Structured Interviews with respect to online experiences with misinformation, Surveys, observation for a 3-week time frame.
  - Discovered a user strategy leading to 5% higher accuracy on media consumption habits assessment via correlating qual and quant data.
  - Utilize quantitative and qualitative research strategies to facilitate data collection and analysis, leading to 15% reduction in time taken to complete project timlines.
  - Conducting usability evaluations and providing recommendations on how to improve our designs, Helping to extend and maintain our design system.
  - Integrate Firebase Authentication and Firebase Security Rules, Set up personalized visualizations and informatics dashboards using D3.js.
  - Scraped about 300 news articles links from All sides site to get media bias data.
  - Customized a toolbar that provides the user with information about the political leaning and fact-based reporting of a given news source.

- **LIS Nepal Pvt.Ltd** Lalitpur, Nepal
  Software Engineer(Full time, Contractual) *September 2020 - July 2021*
  - Proposed a user research structured and framework which placed user reseaarch within an agile environment and reduced wasted development time by 20%.
  - Scoped out client's immediate research needs through a heuristic evaluation which led to a fixing of over 30 bugs and small UI/UX improvements.
  - Leveraged personas to prioritize the feature roadmap and empowered product managers and developers to write customer centric user stories.
  - Re-Designed, build, and maintain highly reusable JavaScript, HTML, CSS, and Kendo UI code for Stock Exchange of Nepal to replace the custom grid with Angular Data Grid. **NEPSE**.
  - Implemented UI elements such as input controls, search boxes, navigational components, and widgets on the system.
  - Created interactive dashboards, highly formatted reports, ad-hoc queries for Projects and Clients like Siam Makro(Thailand), HotTopic, and Belk (United States), and unit testing using Looker, OBIEE/BIP.
  - Conduct usability testing, Identifying and troubleshooting UX problems (e.g. responsiveness, drag and drop, autocomplete feature) that led to a 40% increase in productivity.
  - Extensively worked in frontend using Bubble.io, ReactJs, Typescript, and Redux framework along with production bug fixes and regression testing.
  - Inspected and solved Real-time production issue fixes for clients, Support Monitoring on Hubspot, and UI development.

- **LIS Nepal Pvt.Ltd** Lalitpur, Nepal
  Associate Software Engineer(Full time) *August 2019 - September 2020*
  - Implementation of Datwarehouse projects mostly for US and Asia Pacific retail customers.
  - ETL, Analytical Reporting, Oracle Query Optimization, Unit Testing, and Extensive validation across source and Target Systems.

- **LIS Nepal Pvt.Ltd** Lalitpur, Nepal
  Software Intern (Full time) *May 2019 - August 2019*
  - Batch Monitoring with Autosys, Data Analysis & Validation, and custom scripting.
  - Attending all aspects of the Agile project management (Sprint Planning, Standups, Sprint demo, and retrospective).

- **Digital Products Lab** Kathmandu, Nepal
  Content Designer *April 2019 - October 2019*
  - Conducted Retail and E-commerce user research to identify pain points in existing user experience and develop recommendations for improvement.
  - Work collaboratively with UX team members, Development teams, Product Owners, and Users as part of standardizing a Shopify app that makes an impact.
  - Review existing research and products to a apply the findings to a specific problem and/or process.
  - Managed a 5-member cross-functional (product, engineering, sales, support) team and coordinated with 4 business partners toward the successful launch of an e-commerce platform.

Honors and Awards

- **CIS Distinguished Graduate Student Award** at University of Delaware 2022
- **Recepient of SIGCHI Gary Marsden Travel Awards** for graduate students 2022
- Selected and Received Funding to attend **CRA-WP Grad Cohort for Women 2022**, 2022
- Offered with **Technology Scholarship Program** powered by Bertelsmann for the Intro to ML with Tensor Flow challenge course. December, 2021
- **Semester Topper** in bachelor's in computer engineering for 3 semesters, 2017-2019
- Awarded with the **Merit-based full tution** fee waiver in Kathmandu University, 2018
- Awarded with the **Merit-based full tution** fee waiver for schooling in Bal Jagriti Secondary Boarding School, 2009-2013
- Rewarded with the **National Level Government Scholarship** award for Engineering, 2015
- **Girls District Topper**in Makawanpur District in SLC among 8000 students approx, 2014

Projects

- **Community Comms**: Worked as HCI researcher to developed Chrome Extension that passively logs user browsing behaviour behaviour and allows users to view the aggregated bias rating of a news site, a real-time breakdown of their news media consumption for the day, and other metadata associated with their online behavior.Browsing Data was collected for 2 weeks of time period.
- **UD students Observation**: In this project ,a formative inquiry was often performed namely, in-situ observation–to understand how students currently use a complex digital kiosk that we can easily observe in public such as an ATM or a digital menu and ordering system in a fast food restaurant. I was able to observe how students interact with this kiosk in a natural state without any intervention from us and record behavior within its context,without interfering with their activities.Data for 20 participants was analyzed and identified where and how they struggle, and sketch out alternative designs.
- **Competitive landscape analysis and Formative User research**: Highlight design thinking and the human-centered design process for the Medication Management Mobile app, identified primary target user groups,took two different approaches, one being a more generalized survey and the other being scheduled one-on-one interviews, Analyzed collected data and synthesize design implications. This app lets caregivers get real-time updates on their patients' medications and symptoms.
- **Desktop and Mobile-friendly Web Page**: Developed a ready to publish Desktop friendly and mobile friendly webpage with the help of Canva graphic design tool and link these pages to social media channel, published them with the help of Canva URL.
- **Personal/Portfolio Website**: Created my personal site, one with Google sites, second from scratch using html, css and javascript and third a static blog website using Jekyll, a Liquid Theme, hosted on my github page.
- **Nepal Stock Exchange**: Worked on front end, Customize the Trade Management and Surveillance system for 'NEPSE'. Tech: Angular6, MySQL, Kendo UI JS Library
- **Gocchi:Complaince Manager**: Customer Support and Website Maintenance, Website architecture and user interface design, Prototyoing in Figma. Tech: React/Redux, Bubble.io, Hubspot
- **SWARM**: Created a well-structured RESTful API, using the ASP.NET Core framework and Telerik ASP.Net controls.
- **Family Tree**: Mobile App (Android) User Flow Planning & Unit-testing for robustness, including edge cases, usability, and general reliability. Tech: React/Redux, Bubble.io, Hubspot
- **Siam Makro, Thailand**: Created business intelligence reports and data warehousing solutions for retail clients,Oracle retail Merchandising system, Query Optimization Tech: Oracle, OBIEE, BIP, Bash scripting, Winscp.
- **BELK United States**: Batch Handling/Monitoring, Scheduling and execution of ETL tool jobs, Creation of Extraction and Loading scripts in accordance to the existing python script, ETL, Datavalidation Tech: Snowflake, Autosys, Putty
- **Hot Topic, Inc, United States**: Developed custom scripts for the ETL purpose, Performed unit testing and extensive validation across the source and target systems, Prepared sales and inventory reports. Tech: Looker,Jira, Snowflake, Python
- **Evaluating Serverless Machine Learning Performance with Google Cloud Run**: Created a Machine Learning Python Flask Application for image classification, containerize it, and deployed the containerized application in the google cloud platform and determine different metrics like autoscaling feature. Tech: Python, Google Cloud Run, Docker, Containers, Locust API.
- **Sports Video Classification**: Created a machine learning model to distinguish 6 classes of sports action from a total of 300 video frames using CNN RNN:boxing, hand-clapping,hand waiving, jogging, running, and walking.Tech:GoogleColab,Python,Tensorflow
- **Traditional Dance Classification**: Used the CNN technique to see how we can classify an image on the basis of the position they are making i.e five dance classes namely Bharatanatyam, Odissi, Kathak, Kathakali, Yakshagana. Tech:Google Colab, Python
- **Prediciting Bank's Churn with ANN**: Create a geodemographic segmentation model to tell the bank which of the customers are at higher risk to leave.Tech:Google Colab,Python,ANN, Numpy, Pandas

Certifications and Trainings

- CITI Program CITI Training-Institutional Review Board (IRB)
- Coursera Course Get Started with Figma.
- Coursera Course Design a mobile app interface with Moqups.
- Coursera Course Understanding Research Methods.
- Udemy Course Learn Machine Learning and AI(Including Hands-on 3 Projects).
- Data camp Data Visualization for Everyone
- Data camp Understanding Data Science
- CITI Program Completion of Responsible Conduct of Research "RCR" Training.
- Beauty and De Brains Participation in 4 day training workshop on designing Inspiring Young women with technology
- Udemy Course Crash Course for Laravel7 and vueJs.
- Google Digital Unlocked Completion and certification of Digital Marketing by Google Digital Unlocked.
- Udemy Course Build 10 Real World Deep Learning Projects with Python.
- World Health OrganizationCOVID-19: Operational Planning Guidelines and COVID-19 Partners Platform to support country preparedness and response.
- Fuse MachinesParticipation in FUsemachines AI competition conducted during IT MEET v8 by KUCC. (Dec '18)

Volunteer Experience

- Executive Committee Member in **Women in Big Data nepal**
- Executive Board Member of **Kathmandu University Computer Club**
- Organizer of **GLOBAL VILLAGE PROGRAM** and **YES NEPA**L by AIESEC
- Volunteered Biggest Entreprenership Movement **HULT Prize, The Next Wave of Social Entrepreneurs**
- Participated in 3 days **Social Camping** for Waste management awareness program in Village Goldhunga
- Participated in 1st **SXC Mini Marathon**,Run for Cancer Survivors,Fundraiser and awareness campaign against cancer to support RICHA FOUNDATION
- Voluntary contribute funds directly to the Community Forest Service through **SXC SET Cycle Rally**, Polyfree Kathmandu and Cleaner Bagmati
- Volunteer and Organizer for the event **Creating** Smart Cities in Nepal
- Executive Board Member, **St.Xavier's Literary Club** and Organizer of **Prabaha Kavi Gosthi**

Management and Leadership Skills

- **EmPOWER Mentor 2022** in (Computer and Information Sciences Department.)
- **Event manager at "Nepalese Student Association"** NSA, University of Delaware.
- **"Event Co-Ordinator"** Entrepreneurs Tales v 2.0 held by Kathmandu University in collaboration with KUCC.
- **"Organizer/Marketing Team Leader"** of IT MEET 2018/2019 being an executive member of the board.
- Guest Speaker in **"Fourth Nepal Youth Science Summit-2021 (NYSS-2021)** with the slogan,**Bring Best Brains"** Organized by Brainycube Research Organization
- Participation in **"4th edition of Global Workshop on Recent Research Techniques 2020"**with the theme **IT**, **Automation** and **Industrial revolution.**
- Organize **"The 7th Asian University Forum 2018 in Sustainable Development Goals"** in collaboration with Kathmandu university and Seoul National University