

FAYIKA FARHAT NOVA

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PROFILE

- 4+ years of research experiences in human computer interactions and social computing domains
- 3+ years of professional experiences in health informatics, data modeling and analysis
- Ability to apply logical and mathematical thinking to various kinds of problems
- Skilled in applying both qualitative and quantitative data collection and analysis techniques
- Author of 5 publications in peer-reviewed conference proceedings including 4 first-author papers
- Interdisciplinary collaborator with experiences working in academic, clinical, and industrial research settings
- An outstanding team player with an ability to work independently

SKILLS AND INTERESTS

- **Programming Languages:** C/C++, Java, R, Python, SQL
- **Tools/Software:** RStudio, SPSS, Jupyter, Matlab, Tableau, PowerBI, EHR, Eclipse, Proto.io
- **Packages/Libraries:** NumPy, Pandas, PyTorch, SciPy, Matplotlib, Seaborn, ResearchPy, Scikit-learn, Psych, Ggplot2
- **Research Methods:** Grounded Thematic Analysis, Usability Testing, Semi-structured Interviews, Surveys, Focus Groups, Topic Modeling, Network Analysis, Content Analysis, Statistical Modeling, Data mining, Data Modeling

SELECTED WORK EXPERIENCES

Research Analyst (Intern)- Health Services and Informatics Research Lab *Jan 2022- Present*
Parkview Mirro Center for Research & Innovation, Fort Wayne, Indiana, USA

- Plan, execute and report qualitative and quantitative research techniques, and findings to associated stakeholders
- Perform data analysis and statistical modeling on patients' electronic health records (EHRs) to develop patient insights on novel post Covid-19 symptoms for collaborative decision-making during treatment
- Analyze symptoms trends and forecasts and present the findings to the project teams and stakeholders
- Streamline data integration strategies to minimize manual tasks, increase efficiency and enforce data integrity in EHR
- Lead research on assessing, validating, and improving the current screening mechanism of adolescent patients' risky behaviors at Parkview Behavioral Health Hospital

Research Protocol Assistant (Intern)- Health Services and Informatics Research Lab *May 2020-Dec 2021*
Parkview Mirro Center for Research & Innovation, Fort Wayne, Indiana, USA

- Analyzed and interpreted structured and unstructured data from patients' EHRs using statistical and thematic methods
- Collected online data on user behaviors and implemented Natural Language Processing and Machine Learning models to explore digital self-harm activities and integrated that knowledge with patient narratives in clinical settings
- Designed structured assessment workflow by integrating social aspects into patient's EHR
- Facilitated project meetings, tracked risks and monitored progress

Graduate Research Assistant- Social and Ethical Computing Lab *Aug 2017-Dec 2021*
Marquette University, Wisconsin, USA

- Led projects with research planning, fieldwork execution, analysis, and wrote manuscripts
- Designed mixed-method models to research user behaviors and experiences with different online products/apps and explore user-centered design principles and practices
- Designed ethnographic study, usability testing, survey, focus groups, interview protocols for data collection
- Applied computational methods (Network Analysis, NLP) to analyze social media data
- Advocated research findings to diverse audiences through written reports and in-person presentations

Coordinator- Marketing, Sale and Solution Department *Jan 2017-June 2017*
Huawei Technologies and Co., Dhaka, Bangladesh

- Collaborated with Marketing, Sale and Solution project teams & analysts in data requirements, data mapping and provided technical and functional support on project requirements and deliverables

- Converted data into actionable insights by modeling into data analytical solutions and self-service reporting
- Collaborated with business stakeholders, and various departments to create complex scheduled and ad hoc reports using SQL, Reporting Services, PowerBI, and other reporting tools to examine organizational performance by looking at financials, personnel management, and KPIs

SELECTED PROJECTS

Online Community Analysis: Inferring Influence within Eating Disorder (ED) Twitter Community

Language: Python

Software: Jupyter

- Collected over 32000 public posts tagged with eating disorder hashtags from Twitter using their official API in Python
- Preprocessed the tweets, and used LDA and NMF topic modeling algorithms to identify prominent ED topics
- Created network graphs of users, and performed Girven-Newman and Louvain community detection models
- Performed inductive approach to analyze the tags and media and to create categories of hashtags, coding taxonomy, and media archetypes

Users' Online Interactions & Platforms' Design Implications: Vulnerable Users and Skill of Navigations

Data Collection: Interview, Focus Groups, Online Observations Data Analysis: Thematic Codebook Analysis

- Mentored 4 students to conduct ethnographic studies in Bangladesh with vulnerable Hijra communities
- Designed the research project and collected 61 users' data through semi-structured interviews, focus group discussions and online observations, and performed in-depth deductive thematic analysis on data to create codebook
- Explored user behaviors and user-centric design practices online and advocated for more inclusive online environment

EDUCATION

Marquette University, Wisconsin, USA

Ph.D., Computer Science (*Expected Graduation: 2022*)

Marquette University, Wisconsin, USA

M.Sc., Computing (*Aug 2017-May 2021*)

Asian University for Women, Chittagong, Bangladesh

B.Sc., Computer Science/Information and Communication Technology (*Sep 2011- May 2016*)

MAJOR PUBLICATIONS

- (Accepted) **Nova, F. F.**, Saha, P., & Guha, S. (2022, June). Understanding Online Harassment and Safety Concerns of Marginalized LGBTQ+ Populations on Social Media in Bangladesh. In *Proceedings of the 2022 International Conference on Information and Communication Technologies and Development (ICTD2022)*. Association for Computing Machinery, Seattle, WA, USA.
- **Nova, F. F.**, Coupe, A., Mynatt, E. D., Guha, S., & Pater, J. A. (2022). Cultivating the Community: Inferring Influence within Eating Disorder Networks on Twitter. *Proceedings of the ACM on Human-Computer Interaction*, 6(GROUP), 1-33.
- **Nova, F. F.**, DeVito, M. A., Saha, P., Rashid, K. S., Roy Turzo, S., Afrin, S., & Guha, S. (2021). " Facebook Promotes More Harassment" Social Media Ecosystem, Skill and Marginalized Hijra Identity in Bangladesh. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW1), 1-35.
- Pater, J., **Nova, F. F.**, Coupe, A., Reining, L. E., Kerrigan, C., Toscos, T., & Mynatt, E. D. (2021, May). Charting the Unknown: Challenges in the Clinical Assessment of Patients' Technology Use Related to Eating Disorders. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (pp. 1-14).
- **Nova, F. F.**, Rifat, M. R., Saha, P., Ahmed, S. I., & Guha, S. (2019, January). Online sexual harassment over anonymous social media in Bangladesh. In *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development* (pp. 1-12).

SELECTED HONORS & AWARDS

- Research Assistantship Funded by NSF Award, 2021
- Summer Research Grant by Parkview Mirro Center for Research & Innovation, 2020
- Funded Scholar at Grace Hopper Celebration, 2019
- Funded Scholar at CRA-W Grad Cohort for Women Workshop, 2019