SABID BIN HABIB PIAS

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SUMMARY

Human-centered AI researcher with expertise in designing and prototyping AI systems, complemented by a strong foundation in qualitative and statistical analysis for deriving rich user insights. Specialized in identifying and addressing user needs to inform the development of transparent, usable, and socially responsible AI interfaces, with a particular emphasis on narrative-driven evaluation.

EDUCATION

Indiana University Bloomington *Expected Graduation: July 2025*
Ph.D. in Computer Science

- **Research Interest**: Human-AI Collaboration, Usable Security and Privacy, Responsible AI, AI Privacy, Natural Language Processing

Indiana University Bloomington *May 2024*
M.S. in Computer Science

Bangladesh University of Engineering and Technology *March 2016*
Bachelor of Science in Computer Science & Engineering

PROFESSIONAL EXPERIENCE

Indiana University Privacy Lab *August 2019 - Present*
Graduate Research Assistant

Idaho National Laboratory *Summer 2023*
Python Programmer Intern

Field Buzz (Dhaka, Bangladesh) *January 2017 - May 2019*
Software Engineer

TECHNICAL SKILLS

Languages and Frameworks	Python, R, SQL, React, PyTorch, PyQt, Flask, LIME, SHAP
ML & LLM Techniques	Random Forest, CNN, LSTM, LLM Fine-tuning, LLM Evaluation, RAG
Data Analyses	Causal Methods, Mixed Effect Model, Non-Parametric Tests
Other	NoSQL, GPT API, Git, LangChain, Google Cloud Platform (GCP)

SELECTED RESEARCH EXPERIENCE

Indiana University Privacy Lab
Mentor: *Dr. Apu Kapadia*

- Persuasiveness of Conversational Agents' (CA) in Online Shopping: Evaluated the impact of **CAs' anthropomorphic vocal tones** on consumer engagement through user studies and mixed-methods analysis, achieving an **18% improvement in persuasiveness** with neutral and positive tones over negative ones. Received the **best paper award** at ACM CUI 2024. [PDF]
- User-Centered XAI: Conducted usability research on explanation lengths in **explainable AI (XAI)**, discovering a **15% reduction in user acceptance** of lengthy explanations versus no explanation among **users with low technological comfort**. Presented in ACM CHI 2024 workshop on Human-Centered XAI.
- **Privacy Education with LLM**: Generated contextual nudges through **one-shot prompt engineering**, evaluating their effectiveness in guiding users toward privacy-conscious decisions making; achieved a **13%** reduction in privacy-violating actions and a **16%** decrease in cognitive load during task execution.

- **Bitrotting Photos for Enhanced Privacy**: Proposed two temporal redaction methods for enhancing privacy in photo sharing; evaluated the proposed methods in a user study, where 17-21% participants preferred 'non-sensitive' photos. Published and presented the paper at ACM CSCW 2022. **[PDF]**
- **Decision-Making Awareness in LLM Recommendations**: Designed and prototyped an LLM-powered voice agent using GPT-4 API and Amazon Polly, incorporating linguistic interventions. Conducted semi-structured qualitative studies to evaluate whether these interventions improve user decisions.
- **Assessing Trust Dynamics in Human-AI Collaboration**: Designed a study to investigate the impact of mistake severity and timing on user trust in high-stakes AI systems, suggesting that errors in critical scenarios erode trust regardless of timing, while late errors in less severe contexts are more detrimental. This work has been accepted for a talk at the workshop for Trust and Reliance in Evolving Human-AI Workflows at ACM CHI 2024.
- **Effects of Vocal Tone on The Trustworthiness of Voice Assistants**: Explored the impact of vocal characteristics, such as vocal tone, on the attractiveness and trustworthiness of Voice Assistants (VAs) for complex tasks like online shopping. Found that VAs with positive or neutral tones were perceived as more attractive and trustworthy, concluding that VA trustworthiness can be improved through thoughtful voice design with varied tones.
- Customized Language Learning: Developed a gamified language learning assistant with conversational correction and reward model by **fine-tuning** a pretrained T5 model using **LoRA**, achieving an **improved BLEU score of 31** through refined tokenization.
- Decision Awareness in LLM Recommendations: Designed and prototyped a **voice agent using GPT-4 API and Amazon Polly**, incorporating varying vocal tones. Conducted semi-structured qualitative studies to evaluate whether these interventions improve users' decision-making awareness.
- Organization Knowledge Assistant: Developed a RAG-powered enterprise knowledge assistant with GPT-4 and FAISS for improved contextual retrieval, achieving **78% precision and 72% accuracy through semantic chunking and contextual embedding**.

SELECTED INDUSTRY EXPERIENCE

Idaho National Laboratory
Mentor: *Dr. Cody Walker and Dr. Linyu Lin*

- **Explainable AI (XAI) in Power Plant Fault Prediction**: Designed an Explainable AI prototype interface enhancing user interpretability with visual insights; optimized water pump fault prediction using predictive analytics techniques on imbalanced data(Python, PyTorch, LIME, SHAP, PyQT) (**Poster**)

Field Buzz
Mentor: *Habib Ullah Bahar*

- Collaborated with consultants to extract technical requirements; Produced extensive technical reports
- Built data integrity library with an offline data sync mechanism (Android, SQLite, REST)(**Playstore**)

TEACHING EXPERIENCE

Indiana University

- CSCI-A 542: Technical Foundations of Cybersecurity (Spring 2025)
- CSCI-B 547: Systems & Protocol Security & Information Assurance (Spring 2023)

SELECTED ACADEMIC PROJECTS

- **Language Learning Assistant**: Developed a language learning assistant with grammar correction and conversational practice features by fine-tuning a T5 model using LoRA (Low-Rank Adaptation)
- **Animal Detection from Images**: Designed CNN based architectures and used transfer learning with EfficientDet-D7 for detecting animals from an image subset of 'Open Image Dataset V6' (**Notebook**)

- **Music Genre Classification from Waveform Audio**: Designed and compared CNN, RNN and Transfer Learning based architectures for music genre classification on 'GTZAN' dataset (**Notebook**)

PUBLICATIONS

- **Sabid Bin Habib Pias**, Ran Huang, Donald Williamson, Minjeong Kim, and Apu Kapadia. The Impact of Perceived Tone, Age, and Gender on Voice Assistant Persuasiveness in the Context of Product Recommendations. In *ACM Conference on Conversational User Interface, CUI 2024* **(Best Paper)**
- **Sabid Bin Habib Pias**, Imtiaz Ahmad, Taslima Akter, Adam J. Lee, and Apu Kapadia. Decaying Photos for Enhanced Privacy: User Perceptions Towards Temporal Redactions and 'Trusted' Platforms. In *ACM Conference On Computer-Supported Cooperative Work, CSCW 2022*
- Alicia Freel, **Sabid Bin Habib Pias**, Selma Sabanovic, Apu Kapadia: Navigating Trust Erosion in Human-AI Collaboration: Unpacking the Impact of Severity and Timing in Misclassification In *ACM Conference on Fairness, Accountability, and Transparency, FAccT 2025*
- **Sabid Bin Habib Pias**, Alicia Freel, Timothy Trammel, Taslima Akter, Donald Williamson, and Apu Kapadia: The Drawback of Insight: Detailed Explanations Can Reduce Agreement with XAI In *ACM CHI Workshop on Human Centered Explainable AI, HCXAI@CHI 2024*

SCHOLARSHIPS AND AWARDS

- **Best Paper Award** 2024

  ACM Conversational User Interface

- **Luddy Research Excellence Award** 2023-24
- **Cognizant Trust and Safety Scholarship** 2023-24
- **Best Undergraduate Database Systems Project**, CSE, BUET 2014

ACADEMIC SERVICES

- **Program Committee (PC) Member** EuroUSEC '24, '25
- **Papers Peer Review** CHI25*, CSCW'25*, CHI'24*, CUI'23*, HRI'25
  ICWSM'25, CSCW'24, IMX'24, DIS'24, CUI'24, UIST'24
  * *Special recognition for outstanding review*
- **Mentoring Junior Co-chair** SOUPS 2023
- **Undergraduate Research Mentoring** 2024-25, 2023-24, 2022-23
- **Student Volunteer** CHI'24, CSCW'24, CUI'24, CSCW'23, CHI'22, CSCW'22
- **Papers Subcommittee Student Volunteer**, Security and Privacy CHI'22
- **ACM SIGCHI Student Member** 2020-Current

LEADERSHIP EXPERIENCES

- **Luddy Graduate Student Ambassador**, Indiana University 2022- Present
- **Vice President**, Bangladesh Student Association, Indiana University 2021- 2022
- **Graduate Student Representative**, Luddy School, Indiana University 2021- 2022
- **Organising Member**, Laboratorian Association of BUET 2014-15

REFERENCES

- **Dr. Apu Kapadia**
  Professor
  Department of Computer Science
  Luddy School of Informatics, Computing, and Engineering
  Indiana University
  Email: kapadia@iu.edu
- **Dr. Minjeong Kim**
  Professor
  Merchandising Department
  Eskenazi School of Arts, Architecture and Design
  Indiana Univeristy
  Email: kim2017@iu.edu
- **Dr. Donald Williamson**
  Associate Professor
  Department of Computer Science and Engineering
  Ohio State University
  Email: williamson.413@osu.edu
- **Dr. Mary Jean Amon**
  Assistant Professor
  Department of Informatics
  Indiana University
  Email: mjamon@iu.edu
- **Dr. Cody Walker**
  Research Scientist
  Instrumentation, Control and Data Science
  Idaho National Laboratory
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