Gautam Choudhary

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Education

Purdue University **West Lafayette, IN**
Ph.D. in Computer Science *May 2024 – Present*
GPA – 3.79/4.0 | Advisor: Prof. Walid G. Aref

Purdue University **West Lafayette, IN**
M.S. in Computer Science *Aug 2022 – May 2024*
GPA – 3.79/4.0

Indian Institute of Technology Roorkee **Roorkee, India**
B.Tech. in Computer Science & Engineering *Jul 2015 – Jun 2019*
GPA – 9.22/10.0 | Best Department Thesis Award | Class Rank: 3/81

Professional Experience

The Data Mine **West Lafayette, IN**
Graduate Research Assistant *Jan 2023 – Present*
- Developing a prototype to predict engine failures in advance using historical trip data for a global enterprise leader.
- Collaborated in a team of 5 and engineered a robust pipeline for automated extraction of metadata from medical images, to improve searchability and findability of data; thereby, saving hours of manual work.
- Mentored 7 teams in their machine learning (ML) projects, offering technical advice on code, methodologies, and optimizations, at times resulting in 10x increase in algorithm performance.
- Collected a dataset of over 3900 reviews for a project intended to analyze what makes businesses deaf-friendly.
- Authored documentation for various topics in ML intended for consumption by more than 80 teams.

Adobe Research **Bangalore, India**
Research Associate 2 *Jun 2019 – Jul 2022*
- Formulated and addressed a dozen research problems with industrial applications focusing on enhancing user experience.
- Prototyped solutions using a range of ML techniques, including data mining, representation learning, and user modeling.
- Co-mentored 30+ undergraduate students as part of research internship program.
- Published research in top conferences and contributed to patent filings.

Research Intern *May 2018 – Jul 2018*
- Developed a novel hierarchical text classifier for automatic classification and linking of comments in the document, improving overall system performance by around 19% and saving hours spent in manual categorization.
- Built an Android app to generate insightful visualizations for authors to understand user feedback on documents.

Publications (5) & Patents (8)*

PersonaSAGE: A Multi-Persona Graph Neural Network [paper] **BigData 2023**
Gautam Choudhary, Iftikhar Ahamath Burhanuddin, Eunyee Koh, Fan Du, Ryan A. Rossi

B2B Advertising: Joint Dynamic Scoring of Account and Users [paper] **AdKDD 2022**
Atanu Sinha, Gautam Choudhary, Mansi Agarwal, Shivansh Bindal, Abhishek Pande, Camille Girabawe

ReAct: A *Re*view Comment Dataset for *Act*ionability (and more) [paper] **WISE 2021**
Gautam Choudhary, Natwar Modani, Nitish Maurya

Understanding Blogs through the Lens of Readers' Comments [paper] **CICLing 2019**
Abhilasha Sancheti, Natwar Modani, Gautam Choudhary, Chintha Priyadarshini, Sai Sandeep Moparthi

Determining Digital Personas Utilizing Data-Driven Analytics [patent] **USPTO 17/189,681**
Gautam Choudhary, Iftikhar A. Burhanuddin *Mar 2021*

* For complete list of patents, visit LinkedIn

Selected Projects

Client Selection in Federated Learning [paper][code][slides] **Purdue University**
Collaborator: Peng Ju *May 2023 – Dec 2023*
- Developed an open-source implementation for a widely used client selection algorithm in federated learning.

Persona Learning [paper][video] **Adobe Research**
Advisors: Dr. Iftikhar A. Burhanuddin and Dr. Ryan A. Rossi *Aug 2019 – Jul 2022*
- Proposed a graph-based user modeling approach to automatically identify and learn multiple user personas from historical data, yielding an increase in model accuracy by 15%.

B2B: Account Scoring [paper][news][video] **Adobe Research**
Advisor: Dr. Atanu R. Sinha *May 2020 – Jun 2021*

- Modeled conversion likelihood of business accounts in a B2B scenario, yielding a 17% boost in model efficacy.
- Featured in *Adobe Summit Sneaks 2021*, Adobe's flagship Digital Experience Conference with over 30,000 attendees.

Actionable Review Comments [paper #1][paper #2][data]   **Adobe Research**
Advisor: Natwar Modani   *May 2020 – Aug 2021*
- Released a labeled dataset of $1.2k+$ text reviews (& $52k+$ unlabelled) for identifying actionability in document reviews.
- Introduced a taxonomy for review comments along with establishing strong baselines for NLP classification tasks.

Design Automation for Microfluidic Devices [paper][video]   **IIT Roorkee**
Advisor: Dr. Sudip Roy   *Aug 2018 – May 2019*
- Designed a novel automation approach for sample preparation of bioassays, achieving a 37% reduction in processing time and a 43% decrease in required chip area.

Skills

Languages: Python, C++, Julia, Bash, LaTeX, JAVA, HTML, CSS, JavaScript

Frameworks: PyTorch, TensorFlow, Scikit-Learn, NumPy, Pandas, PySpark, Django, Flask

Tools/OS: Git, Docker, Kubernetes, Databricks, Visual Studio Code, Android Studio, LINUX

Honors & Awards

Winner in Reproducibility Challenge at ML@Purdue × Dagshub Hackathon	*2023*
Winner in Web Technologies Project as part of New College Graduate Bootcamp, Adobe Inc.	*2019*
Best Undergraduate Thesis Award in Computer Science Department, IIT Roorkee	*2019*
Merit-cum-Means (MCM) Scholarship, IIT Roorkee	*2015 – 2019*
Awarded Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship, Govt. of India	*2015*

Service

Purdue University   **West Lafayette, IN**
Travel Grant Coordinator   *2024 – Present*
- Review and manage travel grant applications, facilitating graduate students to attend and present their research at conferences and workshops.

Adobe Research   **Bangalore, India**
Member of Recruitment Team   *2019 – 2022*
- Engaged in recruitment panel activities for internships, and scholarships aimed at empowering women (WIT Scholarship) and students from underrepresented communities (GEM Fellowship).

Adobe Inc.   **Bangalore, India**
Volunteer at Adobe Create Change Day   *2019 – 2021*
- Volunteered for fundraising activities for cancer patients, supporting NGOs, and assisting shelter home children.

IIT Roorkee   **Roorkee, India**
Mentor at Student Mentorship Program   *2018 – 2019*
- Mentored 7 freshman juniors in their academic and non-academic affairs.