

Manila Devaraja

Graduate Research Student | David Eccles School of Business

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Ph.D. student seeking May 2024 research internship opportunities in Human-centered Interaction(HCI), particularly interested in working at the **intersection of humans(psychology), AI, and privacy.**

EDUCATION

August 2023 May 2028*	Doctor of Philosophy Major - Computer Science, SALT LAKE CITY, Utah Coursework : Human-Computer Interaction, Social Computing Human-Centered Computing on Usable Privacy and Security
August 2021 May 2022	Master of Science GPA : 3.7/4.0 , SALT LAKE CITY, Utah Coursework : Machine Learning, Deep Learning, Natural Language Processing, Theory of Machine Learning, Probabilistic Machine Learning, Data Wrangling Data Analysis and Management
May 2014 May 2018	Bachelor of Engineering CGPA - 9.35/10 , Mysore, India Relevant Coursework : Data Structures & Algorithms, Artificial Intelligence, Computer Networking, Network Security Computer Engineering

RESEARCH EXPERIENCE

May 2023 present	Graduate Research Assistant Kahlert School of Computing, SALT LAKE CITY, Utah <ul style="list-style-type: none">> Investigate users understanding of the meaning of the permission settings on their smartphones> The survey includes ranking and rating a total of 24 permissions(Android and iOS combined) based on their importance to the user and inputting their understanding of 6 permission settings.> A quantitative and qualitative study will be conducted on the collected data Statistical Data Analysis Survey Data Collection Qualitative Analysis
May 2022 May 2023	Research Assistant David Eccles School of Business, SALT LAKE CITY, Utah <ul style="list-style-type: none">> Built a data analysis pipeline by performing EDA on Amazon reviews using NLP techniques. Conducted a research study to understand the features to be extracted.> Using statistical NLP methods and topic modeling to understand the review features and correlate to the review usefulness to improve the marketing strategies and recommendations.> Evaluating brands' marketing communication with customers on Instagram by scraping posts and comments. Statistical Data Analysis NLP Latent Dirichlet allocation Modelling Instagram scraping

INDUSTRY

August 2018 July 2021	Software Product Developer Robert Bosch Engineering and Business Solutions, BANGALORE, India <ul style="list-style-type: none">> Lead SW Product Developer responsible for providing final Engine Control Unit(ECU) software to <i>Japan and Indian Clients.</i>> Test automation using Python scripts : A time-consuming manual test-cases of OBD regression test was automated to save 90% of the time.> Experience in all stages of V-model SDLC and all quality processes for the work product : Analysis, Design, Coding, Integration, and Testing of customer requirements. SDLC AUTOSAR CAN ISO26262 Diagnostics Software Product Developer
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TECHNICAL SKILLS

Programming	Python, C, C++, MATLAB, SQL
Packages/Tools	Scikit-learn, Pytorch, XGBoost, NumPy, Pandas, Matplotlib, Seaborn, BeautifulSoup, Git, Max-QDA(Qualitative Analysis), Qualtrics(Survey Building)
Research	Qualitative Analysis(Thematic Analysis), Quantitative Analysis, Statistics and Data Analysis(Python), Writing

PROJECTS

INTERTEMPORAL ANALYSIS USING SYMBOLIC REGRESSION

AUG 2022- MAY 2023

- > An **end-to-end Machine Learning project** to formulate an expression for discount rate by conducting **user studies**, collecting data, and evaluating symbolic regression models.
- > **IRB** certified to formulate and build a **Qualtrics survey** to *capture* features on discount rate behavior of humans.
- > Evaluation of the **deep symbolic regression models** to formulate an expression for discount rate.
- > **3D Visualisations of model's prediction** to group and correlate current amount, future amount, and time.

Survey Data Collection Regression Models 3D visualisation

CS 6530 - ADVANCED DATABASE COURSE PROJECT

SEPT 2022 - DEC 2022

- > Research study to reduce the number of comparisons required during the merge operation. By integrating **binary search with interval-based distribution learning**
- > We implemented **piecewise linear regression, Qcut, and CKwrap models**.
- > We reduced the number of comparisons by **1.5 million** on the YCSB Zipfian dataset of 10 million points of two arrays.

Compaction Learning Database Project using Statistical Learning

CS 6965 - SOCIAL COMPUTING COURSE PROJECT

AUG 2023 - PRESENT

- > Research study to understand the top concerns/discussions on **Reddit** about sharing children's data online.
- > Topic modeling using **LDA, Anchored CorEX, and BertTopic** and evaluation of the models by measuring **coherence and relevance** of the topic models

Social Computing Topic Modelling on Sharenting Reddit data

TEACHING AND MENTORING

Aug 2021 Dec 2022	Teaching Assistant CS2420- Data Structures and Algorithms using Java, UNIVERSITY OF UTAH, Utah <ul style="list-style-type: none">> Assisted 300+ students over the semester> Handled 50+ students grading each week> Conducted labs each week
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Java Data Structures and Algorithms Mentoring

AWARDS

2023	Student Award to attend GREPSEC VI workshop
2015	Student Delegate at IEEE SYW Leadership Congress 2015

OUTREACH AND VOLUNTEERING

2022	Student Volunteer, ICLR 2022
2018-2020	Active CSR volunteer, Robert BOSCH
2015	Teacher, Science Ashram

REFERENCES

Sameer Patil
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