# Tanya Churaman, M.S.

DATA SCIENTIST • RESEARCHER • COMPUTER SCIENTIST • XR ENTHUSIAST

678-770-2083 • tanyaalana@gmail.com • https://www.linkedin.com/in/tanya-churaman/

I am a published researcher and expert programmer with 5 years of experience in research and turning data challenges into practical solutions. I have extensive experience coding in R, Python, SQL, and Tableau, amongst knowledge in other languages and platforms to transform both quantitative and qualitative data into meaningful insights. Having an interdisciplinary education and research experiences that span across Machine Learning, Human-Computer Interaction, Psychology, and Education has made me a skilled and creative researcher, designer, and communicator that can add value to any project. Plus, I am an emerging technology innovator who is passionate to understand where technology can revolutionize how we learn and work.

## Education

**Master of Science in Computer Science: Machine Learning** (4.0)
Georgia Institute of Technology - Atlanta, GA
January 2020 – December 2020

**Bachelor's Degree in Computer Science – Highest Honors**
*Concentrations in People and Intelligence*
Georgia Institute of Technology - Atlanta, GA
August 2016 - December 2019

## Experience

*Psychometrics Data Manager*
Pearson – Remote, Georgia
January 2023 -- Present

I manage and analyze data related to the development and administration of standardized tests and assessments within English Language Learning. As a researcher and data manager within test design and innovation, I ensure that the creation and improvement of educational assessments: meet Pearson's quality standards, accurately and reliably measure student performance and achievement, and assure that fairness and equity is achieved for all test takers. Hence, my responsibilities include but are not limited to designing data collection methods, overseeing data collection and processing, ensuring the accuracy and integrity of data, maintaining databases of various data, performing various statistical analyses to evaluate the quality of test items, manipulating and restructuring data, collaborating across departments to improve, create, and monitor assessments and student performance, and creating compelling technical reports and visualizations to communicate findings to internal and external stakeholders. In addition, I am also involved in developing and implementing new tools to analyze test data to help increase effectiveness and efficiency.

*Quantitative Research Scientist*
Pearson – Remote, Georgia
July 2022 – January 2023

I leverage advanced research design and skills, design principles, and data science algorithms and visualizations to develop evidence-based metrics on learner outcomes within Learning Impact Management. These metrics are then used to develop or improve current products to ensure learners' success and confidence. Due to my extensive knowledge in Extended Reality, I also participated in projects related to researching the efficacy of virtual/extended reality upon learning and created internal documentation of emerging technology trends to provide insights about where technology can be maximized to learning and skill building. I also worked on DEI (Diversity, Equity, & Inclusivity) projects concerning LDP Support, Diverse Learners, and SRI Toolkit. These projects involved making documents concerning good design and content considerations when creating learning experiences, good practices when analyzing data from both quantitative and qualitative standpoints and understanding the effects of learners' identity upon learning and other student measures (motivation, psychological safety, etc.). The goal is to ensure every product is designed with the principle of inclusiveness – inclusive of all people and all communities.

*Teaching Assistant/Instructional Associate*
Georgia Institute of Technology - Atlanta, GA
January 2018 – August 2021; August 2022 - Present

I was a teaching assistant for two courses -- Artificial Intelligence, Ethics, and Society (AIES) and Intro to Media Computation. For AIES, I taught various AI/ML techniques that could be used to counterbalance the potential abuse and misuse of learning from big data, the effects of these technologies on individuals, organizations, & society while paying close attention to what our responsibilities are as data scientists/programmers. For Introduction to Media Computation, I taught the fundamentals of programming (e.g., concepts on how to write programs for mathematical calculations and image, sound and text manipulations; and applications of algorithms, basic programming, data representations, etc. to media related problems). My responsibilities included hosting a weekly recitation and office hours reviewing course material for the week, grade homework, and Team Leader of Assessments Team. I currently work as an Instructional Associate for AIES.

*Digital Experience Engineer Intern*
Asurion – Nashville, TN
May 2020 – August 2020

I utilized Watchman, SQL, and Java to create an alert system to notify software engineers of failed tests every hour via Slack. Engineers were not able to fix programming bugs in a timely manner due to a lack of a system to understand the optimal time to check on tests to ensure the code was performing correctly. Thus, I automated the process by notifying engineers within the hour, which efficiently allows problems to be solved in a timely manner before they evolved into bigger and harder problems to fix. I also developed a program to prevent duplicate entries in a blacklist table when contracting vendors in the Product team. Lastly, I boosted the querying performance of response tables of approx. 23 million rows.

*DevOps Intern*
Asurion – Nashville, TN
May 2019 – July 2019

I created a ChatOps Bot to facilitate code deployment through a user-friendly and interactive interface. I utilized Amazon Web Services (AWS) – Amazon Lex, Lambda, and SSM – in order to understand user intents, host the code infrastructure, and manage configurations of the bot and the Serverless Framework to help host and configure code and Bitbucket APIs to manipulate git-tags and deploy code.

*Technical Solutions Specialist*
IBM - Atlanta, GA
May 2018 – August 2018

I served as the lead developer for a cloud application that utilizes social media to find new opportunities for IBM Cloud software for 3 different portfolios via a Node Red framework. I used Operational Decision Management to create a complex rule system to create a rich filtering system to locate potential clients. I worked with the tools of the Digital Business Automation Portfolio and presented a demo of Robotic Process Automation. I also presented presentation about the benefits and implementation of IBM Infosphere BigInsights & SPSS Predictive Analytics Enterprise.

## Highlighted Projects

*Product Analytics Dashboard*
I analyzed learner data from an eTextbook platform with eTextbooks, learning videos, and other learning tools. etc.). I designed and implemented a learning focused, real-time Tableau dashboard that analyzed the clickstream/telemetry platform data for over 27,000 and growing learners. This focused dashboard was used to understand how learners were utilizing the video platform portion of the tool. I also analyzed student data to understand learning behaviors, usage activities, and performances. The goal is also to understand learner outcomes, such as motivation, achievement, and comprehension. With the knowledge presented in the dashboard, I helped other teams identify data gaps and informed product decisions on how to continuously improve the tool to encourage active learning behaviors. This project relied on both my coding and my design skills to present data in an informative and appealing manner that could be understood by a range of audiences.

*Emerging Technology: Advanced Tech, Metaverse Lit Review, & Talespin*
For the Advanced Tech project, I worked with learning designers, researchers, and other members to develop internal documentation on emerging technologies, such as Natural Language Processing, Extended Reality (XR), Recommendation & Prediction, and the Metaverse. I heavily focused on Education Applications, Feasibility Questions, and Design Considerations. I also presented to the Efficacy and Learning division about XR. I also oversaw the development of some of the metaverse literature reviews. I provided an extensive list of sources and feedback to the writers to ensure documents are informative and accurate. Lastly, as part of a partnership, I worked alongside other team members with Talespin to understand the effectiveness of a world-building virtual reality environment to teach employees soft-skills to increase worker productivity.

*Memory, Affect & Planning Research*
To better understand the impact of cognitive load and individual differences upon navigation and cognitive mapping in a virtual environment, I collected navigation and point task data from the virtual environment created in Unity as well as pre and post survey data. I analyzed all the data using both Python and SPSS. The goal was to see if the use of more buildings and landmarks could aid participants in creating a more detailed and accurate cognitive map. This research is published both online as my undergraduate thesis (hyperlink) and a joint research paper in the *Journal of Experimental Psychology* (hyperlink)

## Skills

**Computer:** Python, R, RStudio, SQL, Snowflake, Tableau, Markdown (R, LaTex), Java, JavaScript, D3, SQLite, , OpenRefine, Hadoop-Java & Microsoft Azure, Azure ML Studio, Spark/Scala, C, C#, Amazon Web Services (AWS), HTML, CSS, Unity, IntelliJ, Android Studio, Figma, Balsamiq, Machine Learning, Human Computer Interaction
**Research:** Research Design, Data Collection and Visualization, Analysis/Data Analytics, Literature Review and Report Writing, DEI Considerations, Critical Thinking
**Languages:** English – Native, Spanish – Basic
**Other:** Microsoft Office, Communication, Teamwork, Teaching, UX Research & Design, Design & Ideation, Low-Fidelity & High-Fidelity Prototypes, User Feedback Plans

## Leadership & Volunteer Work

*Grad Group Leader*
In order to help new incoming graduate students at Georgia Tech, my responsibilities as a Grad Group Leader involved: facilitating small group meetings, fostering and developing a sense of community, providing Career Fair advice and prep, planning social activities to integrate students into campus life, and grade deliverables. Grad Life can look different for everyone; thus, my role was to support students in any way I could.

*HackGT Catalyst Mentor*
I volunteered as a mentor for the HackGT Learnathon that gives metro-Atlanta high school students from traditionally under-served communities an opportunity to explore Computer Science. I am passionate about helping students explore their potential and explore future possibilities in STEM, and thereby, making STEM education accessible for all. For this event, I assisted students with creating a website from scratch using HTML & CSS, creating Thunkable apps, and Hour of Code.

*KNIT Mentor*
I served as a KNIT (Knowledge, Nurture, Interaction, Tradition) Mentor at Georgia Tech to help motivate and prepare incoming students as they began their first year at college. I provided 1-1 mentoring to freshman students for 2 years. The goal is to serve as both a friend and role model to these students to help them understand how they can succeed in their classes, utilize the school and on-campus resources, and help plan their future careers.