Puneet Bhargava

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Summary

- Technical Expertise: Proficient in Python (scikit-learn, PyTorch), R, MySQL, web scraping, and API development, with a focus on data analysis, machine learning, and automation.
- Research & Development: Extensive experience in building cognitive training games, misinformation models, and conducting qualitative research across industries like consumer behavior and emotional intelligence.
- Multidisciplinary Projects: Developed video games for behavioral research, created geospatial visualizations, and conducted psychophysics experiments using tools like Godot, Unreal Engine, MATLAB, and jsPsych.

Skills

Python (scikit-learn, PyTorch, NumPy, pandas, Matplotlib, seaborn, mysql.connector), R (base, tidyverse, ggplot2, nlme, data.table), web scraping (Selenium, BeautifulSoup), MySQL, API requests (GET, PUT, POST), surveys (Qualtrics, Prolific), Power BI

Experience

Research Assistant Kelowna, BC
University of Regina October 2021 - June 2023

- Misinformation projects:
  - Built machine learning models using scikit-learn to analyze news content features and quality for misinformation research. Collected data through a web-scraper using Python, Selenium, and XPath to retrieve politics-related posts. Automated social media experiment stimuli generation and deployed an [app](#). Implemented study randomization and counterbalancing with custom JavaScript in Qualtrics surveys. Collected data from Amazon Mechanical Turk, Prolific, and Turkprime.
- Qualitative projects:
  - Conducted literature reviews for qualitative research projects on the textile industry in Asia, culture and gender's influence on higher management in technology firms, and emotional intelligence in the gaming industry.
  - Worked on the Writing Data Stories project to understand how children reason about data, analyzing and coding video and screenshare data from student focal groups using CODAP software.
  - Also contributed to the Spirit of Wonder Storytelling Project by conducting interviews with people from diverse backgrounds.
- Video-game development projects:
  - Developed video games using Godot, Panda3D, and Unreal Engine to measure attention, behavior, and decision-making, including a 2D Hawks and Doves game.
  - Created an adventure role-playing game to promote empathy in young gamers and a mobile app for self-attribute analysis.
  - Deployed Godot [games](#) for [data collection](#) in perception and decision-making projects, and utilized Python and MATLAB for data analysis and visualization.
- Geospatial visualization project:
  - Developed choropleth maps and population-distorted cartograms using Chicago crime data and [geospatial data](#). Accessed [crime data](#) from 2001 onwards via the Socrata Open Data API using the RSocrata library. Created [34 maps](#) covering crime data from 2016 to 2021 using the ggplot2 R library to visualize crime in Chicago
- Vision projects:
  - Worked on symmetry perception, extending numerosity bias to rotation symmetries using PHP, JASP, Python, JavaScript, WAMP, MATLAB, HTML, and PsychoPy.
  - Converted psychophysics experiments from PsychoPy to jsPsych to allow for online data collection.
  - [Automated](#) game pausing in AimLab using Python to facilitate vision research.
  - Developed a modular 3D [first-person shooter game](#) in Godot for visual perceptual training.
  - Conducted VR and smartphone experiments to understand habit formation and perception, using 'Automate for Android' for stimuli configuration and logging. Utilized Appblock to restrict access to specific apps.
  - Tested hypotheses and fitted hierarchical drift-diffusion models to analyze data on how people make decisions.
- Cognitive training project:
  - Developed a [multitasking racing game](#) to improve cognitive function, based on existing literature. Integrated the game with UMinnesota's [Taskflow application](#), handling data collection, parameter extraction, and browser interactions. Analyzed and modified JSON data using MySQL and Python, optimized game performance, and documented JSON output. Game development was guided by Taskflow's configuration guides, API design, and [documentation](#)

Quality Assurance Specialist Kelowna, BC
Tveon February 2020 - August 2021

- Automated GUI, API, and integration tests using JavaScript, Selenium, Groovy, and JMeter for a video engineering project, resulting in the detection of severe defects in a mere 15 minutes after every software release

Quality Assurance Analyst II Kelowna, BC
CentralSquare Technologies May 2019 - January 2020

- Automated UI and integration tests using C#, Selenium, and XPath for a web-based project in the property tax domain, resulting in a seamless continuous integration process within 1 month of the project start

Research Assistant   Ahmedabad, India
IIM Ahmedabad   May 2018 - March 2019
- Conducted literature review, experiments (using Qualtrics and MTurk), and data analysis (using R) for consumer behavior research projects to understand consumer decision making and information processing
- Planned and promoted the Asia-Pacific Association for Consumer Research Conference

Quality Analyst   Noida, India
ION Trading   January 2013 - April 2016
- Collaborated with software developers to understand financial technology, business processes, and developed software test automation using Java, Robot Framework, and Python to facilitate automated testing of exchange connectivity software

Education

University of Pennsylvania	MA Psychology	2024
Indian Institute of Foreign Trade	MBA Marketing	2018
Delhi College of Engineering	BE Computer Engineering	2012