Noah Guzmán

nguzman313@gmail.com | 714-659-0043 | LinkedIn | Website (Portfolio) | Google Scholar | GitHub

PROFESSIONAL EXPERIENCE

Data Science and UX Research Consultant (Freelance)   September 2019 – Present
- Developed and designed interfaces for a Python library for multifractal analysis of spatial and time series data, providing human-computer interaction researchers with a useful computational tool.
- Conduct guerilla user research to create product roadmaps, user personas, journey maps, wireframes, and Figma prototypes for multiple software startup companies, enabling rapid progress through the product development lifecycle.

California Institute of Technology   Pasadena, CA
Ph.D. Research and Data Analyst   September 2019 – June 2023
- Innovated and developed new approaches to measure and analyze human decision-making data. Developed Bayesian models and hypothesis tests of behavioral data using Python, R, and Stan. Upheld rigorous standards for statistical inference by using robust model validation methods. Synthesized metrics and dashboards for stakeholders.
- Programmed artificial agents and compared their behavior to human-in-the-loop tests, providing insights into peoples' mental models and sources of human error. Used data to develop research narratives and behavioral interventions.
- Designed and executed hands-on end-to-end research with participants from diverse backgrounds, utilizing a wide variety of methods including in-depth interviews, task analysis, and survey design and response effects analysis, incorporating research insights and technical requirements into reports for both technical and non-technical audiences.
- Designed and developed video games and interfaces for experimental psychology studies using HTML and JavaScript. Prototyped app interfaces and stimuli using Figma and Unity. Deployed studies as interactive digital apps via cloud platforms, executing projects in a timely manner to meet deadlines and prioritize research opportunities.
- Managed and executed impactful research plans for usability, A/B, and play tests with dozens of users, extracting actionable insights to ideate, evaluate, and improve video game and interface designs. Recruited participants methodically.
- Employed Python implementations of signal processing and machine learning algorithms to visualize and quantify changes in audio and image data to support development of neurological techniques. Managed large SQL and NoSQL databases.
- Wrote research ethics and design process documentation for consumption by peers and regulatory agencies, advocating for subjects' wellbeing and enabling efficient execution of research plans in an ambiguous and fast-changing environment.

Brandeis University   Waltham, MA
Research Assistant, Marder Lab   Jan. 2017 – Aug. 2019
- Illustrated complex concepts and communicated research findings to diverse audiences with compelling written reports and creative in-person presentations, driving innovation in the field and increasing adoption of frameworks.
- Developed robust interdisciplinary project proposals and research plans with cross-functional stakeholders.
- Designed neural network, machine learning, and control system models and programmed simulations and analyses in Matlab, Java, Python, and Julia. Conducted Bayesian and non-linear time series analyses of experimental data.

California State University Long Beach   Long Beach, CA
Research Assistant, Tsai Lab   Aug. 2015 – Aug. 2016
- Quantitatively analyzed psychobiological data using statistical methods in Microsoft Excel and SPSS. Developed the information architecture and graphics for translating these findings into clear strategic narratives for stakeholders.

SKILLS

Programming Languages and Software: Java, Python (Pandas, Scikit-learn, Numpy, Matplotlib, PySpark), Stan, Julia (Flux, Turing, Plots, Plotly), HTML, JavaScript (p5.js, SurveyJS, D3.js, React), CSS, R, Mathematica, MATLAB, Shell scripting (Bash, SLURM), SQL, Idyll, LaTeX, Markdown, Linux, Unity, Microsoft Excel, Google Firebase, Amazon Web Services, Git, Qualtrics, Prolific, SPSS, Figma, Inkscape, TikZ, Adobe Creative Suite, PowerBI, Spark, Tableau.

Research and Project Management: Spanish, card sorting, journey mapping, Agile, competitive audits, market research.

EDUCATION

California Institute of Technology   Pasadena, CA
Master of Science in Computation and Neural Systems   *GPA: 3.8*

Brandeis University   Waltham, MA
Combined Bachelor of Science/Master of Science in Neuroscience, Minor in Mathematics

California State University, Long Beach (Transferred)   Long Beach, CA
Pursued two years of a Bachelor of Arts in Graphic Design prior to Brandeis University.
Relevant coursework: fundamentals of graphic design, industrial design, physical and digital media

Coursera Certification in Model-Based Systems Engineering (MBSE)   Credential ID: LVSZ3LQ5S2DJ