Shweta Kumari Sisodiya

Email : sksisodi@ucsc.edu
Mobile : +1-669-388-2469
Linkedin: https://www.linkedin.com/in/sisodiyashwetaiitr/
Github: https://sksisodi.github.io/
Lab Website: https://www.interactiondynamicslab.com/

Education

- **University of California Santa Cruz** — Santa Cruz, USA
  Computation Media Ph.D. Student — *Sept 2021 - Present*
  Advisor:Dr. Elin Carstensdottir
- **Indian Institute of Technology Roorkee** — Roorkee, India
  Integrated-M.Sc. Applied Mathematics — *July 2013 - May 2018*
  Master Thesis: K-Shrinking Hypersphere Particle Swarm Optimization
  Advisor:Dr. Kusum Deep

Work Experience

- **University of California Santa Cruz** — Santa Clara, USA
  Job Title: Teaching Assistant: Game Design Studio — *Jan 2024 - Mar 2024*
  - Mentored eight teams in the design, development, and deployment of game projects, overseeing experience design, system integration, testing, and project management to produce playable game prototypes.
  - Delivered lessons on playtesting, highlighting feedback's role in refining the user experience, game mechanics, and project quality.
- **University of California Santa Cruz** — Santa Clara, USA
  Job Title: Teaching Assistant: Creative Strategies for Designing Interactive Media — *April 2022 - June 2022*
  - Aided students in understanding and applying various design approaches, enriching their creative repertoire and providing a broader context for interactive media design.
  - Contributed to enhancing students' skills in design execution, presentation, discussion, teamwork, and reflection, aligning with course objectives to foster a comprehensive design acumen.
- **Accenture AI** — Gurgaon, India
  Job Title: Senior Data Science Analyst — *Aug 2018 - Aug 2021*
  - Developed a web-scraper bot for Oracle Retail Demand Forecasting (RDF), automating data transfer to a local system and reducing manual data handling by 20%.
  - Utilized R, and Python to develop sophisticated Demand Prediction Models using machine learning techniques like Holt-Winters and Bayesian Forecasting, enhancing forecasting accuracy and offering strategic insights to clients.
  - Created Classification Analytics Tools using Logistic Regression, Decision Trees, and Random Forests, applying data visualization to effectively communicate key business insights.

Academic Projects

- **StudyCrafter** — Santa Clara, USA
  Role: Graduate Student Researcher | Advisor: Multiple — *Jan 2023 - ongoing*
  - Led qualitative research for the StudyCrafter project, capturing insights from faculty and students on educational applications and challenges.
  - Analyzed potential for AI integration to enhance learning, focusing on supportive roles and customization to individual learning preferences.
  - Developed a conceptual map to streamline narrative design in study design, improving feedback mechanisms for users.
- **Game Mechanics : Qualitative Data Analysis** — Santa Clara, USA
  Role: Graduate Student Researcher | Advisor: Dr. Elin Carstensdottir & Dr. David Thue — *June 2023 - Sep 2023*
  - Leveraged Python programming to apply clustering methodologies to qualitative data on "Game Mechanics," pioneering a hybrid approach that integrates quantitative and qualitative research methods.
  - Utilized advanced data analysis techniques, including disparity indexes calculation and Kmeans clustering, demonstrating proficiency in text processing and data visualization.
  - Enhanced understanding of qualitative data patterns within the "Game Mechanics" domain, contributing to interdisciplinary research by merging traditional and innovative analysis techniques.
- **University of California Santa Cruz** — Santa Clara, USA
  Role: Graduate Student Researcher | Advisor: Dr. Elin Carstensdottir — *Jan 2022 - March 2022*

- Co-developed "Shibu," a role-playing game aimed at promoting gender-inclusive language (GIL) and the correct use of personal pronouns, reflecting a collaborative effort .
- Focused on immersive narrative and interactive gameplay to educate players on gender inclusivity, emphasizing iterative development with extensive player feedback and playtesting.
- Committed to refining game mechanics and narrative for enhanced pronoun usage, aiming to foster an inclusive linguistic landscape and demonstrate the educational potential of gaming platforms.

- **Resilience** Santa Clara, USA
  Role: Graduate Student Researcher | Advisor: Dr. Magy Seif El-Nasr & Dr. Elin Carstensdottir *Sep 2021 - Dec 2022*
  - Served as narrative designer for "LUX," a Alternate Reality Game engaging UCSC undergraduates with the campus's history.
  - Conducted playtesting and data analysis to refine gameplay and narrative flow, ensuring an immersive experience that challenges players with puzzles, decision-making, and exploration of UCSC's evolution.
  - Contributed to programming efforts, collaborating within a team to implement game mechanics and features, supporting the game's development over several weeks for team-based play.

- **South Asian University** New Delhi, India
  Role: Research Assistant | Advisor: Dr. Jagdish Chand Bansal *June 2018 - July 2018*
  - Worked on improvising the computational complexities of algorithm proposed during master thesis.Additionally, used Mathematical Induction(MI) to prove the correctness and efficiency of the proposed algorithm. Developed a python code to study and observe the performance of proposed algorithm against five well know swarm algorithms PSO, Trelea I PSO, Trelea II PSO, Clerc PSO and SPSO 2011. The basis of comparison was 24 benchmark problems selected from collection of CEC benchmark problem set.

- **Indian Institute of Technology Roorkee** Roorkee, India
  Role: Research Assistant | Supervisor: Dr. Kusum Deep *Jan 2018 - May 2018*
  - Worked on Shrinking hypershere Particle Swarm Optimization (SHPSO) algorithm to identify the mathematical and computational complexities. Proposed a new variant of the algorithm (K-Shrinking hypershere Particle Swarm Optimization) that introduce clustering in conjunction with evolutionary algorithm. The iterative clustered swarm which reduces the computational cost.Further studied the performance of the algorithm against the existing SHPSO algorithm by using the molecular potential energy function as a benchmark.

- **Northeastern University** Boston, USA
  Role: Summer Research Intern | Supervisor: Dr. Magy Seif El-Nasr *Jun 2017 - Aug 2017*
  - Team Adaptability and Team Performance
    - Worked with a team of researchers towards validating the use of Augmented Reality Games as experimental environment to study psychology and social science constructs to capture the essence of individual and team adaptability.
    - Worked with the team in organising the play testing and data collection by video recording player, pre and post interviews.
    - Used various Statistical/Programming Tools like R to visualise and gain insights into data.
  - SSIEGE (Soldier Sourcing Insights Early using a Game Environment) Worked with a team of researchers to identify patterns in player's behaviour using techniques of Game Analytics. Designed a prototype for a problem analyzer to model player behavior. Designed a set of behavior labels for player's behavior data

- **Indian Institute of Technology Roorkee** Roorkee, India
  Role: Research Assistant | Supervisor: Dr. P Bera *Jan 2016 - April 2016*
  - Flow Modelling in Packed Bed Reactor Worked on mathematical validations for differential equations for second generation of biofuels and reactors.Developed a stable set of differential equations supporting the fluid dynamics of reactor.

Publications

- Under Pressure: A Multi-Modal Analysis of Induced Stressors in Games for Resilience
  International Conference on the Foundations of Digital Games 2023 (Full-paper)
- Gender, Culture and Communication
  ACM CHI 2022 (Workshop), USA
- A Data-Driven Design of AR Alternate Reality Games to Measure Resilience
  HCII'22, Online (BEST PAPER)

Skills

- **Research**
  - Qualitative methods, user interviews, ethnography.
  - Experimental study design, surveys, A/B testing, usability testing.
  - Investigative analysis methods.
  - Reporting and presenting results and complex information.
  - Great experience with game studies, narratology, ludology, and interactive storytelling research.
- **Design and Development**
  - Excellent communication skills.
  - Playtest design, prototyping, and iterative design methods.
  - Game design methods and theories.
  - Time management, deadline-driven production, and agile development practices.
  - Git, Jira, Slack.
  - Problem-solving and debugging.
- **Narrative and Other**
  - Creative writing, poetry.
  - Narrative, narrative theory, structure, and pacing.
  - Branching, interactive narratives.
  - Twine, Ren'Py
  - Giving and receiving in-depth, precise feedback.
  - English