Shweta Kumari Sisodiya

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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

ACADEMIC PROJECTS

- **South Asian University** — New Delhi, India
  Role: Research Assistant | Supervisor: Dr. Jagdish Chand Bansal — *June 2018 - July 2018*
  - **Evolutionary algorithm and Swarm Intelligence**: 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*
  - **Master Thesis**: 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.

EXPERIENCE

- **Accenture AI** — Gurgaon, India
  Job Title: Senior Data Science Analyst — *Aug 2018 - Aug 2021*
  - **Internet Bot**: Oracle Retail Demand Forecasting (RDF) is a statistical and promotional forecasting tool. Designed and developed an internet bot that scraps the data on tool (web based version) and move the data to google cloud or download in system. This significantly reduced the manual labour work of the team by 20 percent time spent manipulating the data.
  - **Forecasting Prediction Model**: Used various Statistical/Programming Tools like R/Python/SAS for analyzing data and creating complex analytics Demand Prediction Models using ML techniques Holt Winters, Seasonal Regression, trend Decomposition and Bayesian Forecasting. Further delivered data-driven insight and novel data solutions through direct client consultation.
  - **Classification Analytics**: Created Classification Analytics Tools using Logistic Regression, Decision Trees, KNN, and Random Forest.Then utilized data visualization tools to effectively communicate business insights

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)