Curriculum Vitae: Amit Jena

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(As I am often traveling internationally, e-mail is my preferred method of contact)

EDUCATION

- Ph.D. student, IITB-Monash Research Academy, Mumbai, India. Specialization in User modelling for Visual Analytics. CGPA: 8.9
    - Joint Ph.D. student with IDC School of Design, IIT Bombay, India and Faculty of IT, Monash University, Melbourne, Australia.
    - Expected graduation: summer 2021
    - Key courses: Interaction Design, Data Visualisation, User Study, Usability Evaluation, Human Factors for Interaction Design, Interaction Design for Development, Micro Interactions.
- M.Tech in Computer Science and Engineering, IIIT Bhubaneswar, India. CGPA: 9.63
    - Graduated: June 2017
    - Key courses: Design and Analysis of Algorithms, Advanced Data Mining, Information Theory and Coding, Machine Learning, Computer Graphics and Image Processing, Information Retrieval, Computer Networks.
- Integrated M.Sc. in Applied Mathematics, Central University of Jharkhand, India. CGPA: 7.95
    - Graduated: July 2014
    - Key Courses: Numerical Analysis, Partial Differential Equation, Real Analysis, Statistics, Linear Algebra, Abstract Algebra, Analytic Number Theory, Integral Equations, Topology, Operations Research, Theory and Application of Fuzzy Sets, Mathematical Modelling

VISUALISATION PROJECTS:

- Visualization of All 8495 Indian Railway Stations
    - This project is an effort to collect the coordinates and other information about all the 8,495 railway stations in India.
    - This is a work in progress with more data and interactivity to be added.
- Uncertainty Visualisation Browser
    - This is a work in-progress to create a repository of research papers, articles and techniques dealing with uncertainty visualisation.
- Communicating uncertainty for non-technical people.
    - The problem is how to communicate uncertainty in bus/train/tram arrival and departure times in Melbourne to help commuters make a smooth transfer between different modes.
    - It involves a joint probability distribution of predicting arrival time of one bus and the departure of another could be used to help people make a transfer, but may involve a more complex visualization than a univariate predictive distribution.

DESIGN EXPERIENCE

- How to make children more sensitive about preserving the environment?
    - Design scenario
        - We want the children to be aware of the resources available in the jungle.
        - We want to learn from children by observing what and how they are doing in an unfamiliar environment.
    - Product Vision
        - To make children find different colours and textures from the nature.
    - Final Solution: Digital Artwork
        - Using Colours and Textures extracted from the captured images.
        - Collaborative work - Maximum three children at once.
        - Common Colour Palette
        - Draw using fingertip.
        - Different Sounds of the jungle gets embedded with the artwork.
    - The final artwork is displayed on a large screen.
        - Onlookers can interact with the artwork and explore the used colour and texture and get to see the original image.
- Improvisation of system performance through better user-product-environment interaction.
    - Objective: Designing of door latch for Elderly couple while addressing affordable, and sustainable solution for that issue.
    - Design features fulfilled: Safety and security, Affordability, Easy in operation, Sustainability, Trouble free maintenance
    - Proposed Solution: Use of RFID enabled key which will unlock the door when the key comes in proximity of the door, depending on the settings of the proximity distance set by the user.
- Usable Security - Password for Less-Literate Users
    - Objective: Designing a novel password mechanism for emergent users.
    - Proposed solution: Peekaboo (Inspired from the game of Peekaboo!)
        - For setting password: The Key will be shown on the top left corner. Drag and drop it under/on some object. Micro-Interactions will show the object above which the key is dragged to.
        - For unlocking Password: Click on the object. To increase complexity, we can add multiple taps (say 3) on any object to show the key.
        - Note: This will be a Cue-Recall based system. Association with where you will hide the key in the natural settings of the user.

RESEARCH PAPERS

- Collins, Christopher, Natalia Andrienko, Tobias Schreck, Jing Yang, Jaegul Choo, Ulrich Engelke, Amit Jena, and Tim Dwyer. "Guidance in the human–machine analytics process." Visual Informatics 2, no. 3 (2018): 166-180.
- Jena, Amit, and Rakesh Chandra Balabantaray. "Semantic desktop search application for Hindi-English code-mixed user query with query sequence analysis." 2017 2nd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT). IEEE, 2017.
- Jena, Amit, and Chandra Balabantaray. "Query Optimization using Query Sequence for Hindi-English Code-Mixed Query." 2nd International Conference on Sustainable Computing Techniques in Engineering, Science and Management (SCESM 2017). 2017.
- Jena, Amit, and Priyadarshi, Mukul. "FORECASTING STOCK MARKET INDEX USING ARTIFICIAL NEURAL NETWORK." International Conference “The Next Leap: Exploring New Paradigms in Business”, 2014.

COMPUTER SCIENCE / SOFTWARE ENGINEERING SKILLS

- Programming languages: experienced in R, JavaScript, C/C++, Python, MATLAB.
- APIs, libraries, software frameworks: NumPy / SciPy, OpenGL, HTML, CSS, D3, OpenGL.

References available upon request.