Chandrayee Basu

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Experience

Researcher | Stanford University 2021 - present

CTRL-sim – Finely annotated dataset and T5 based models for Controllable Medical Text Simplification (submitted to *AAAI-2023*).

Value-aligned Recsys - An RL-based healthy food recommender system leveraging human values associated with food choices (part of the work submitted to *CHI 2023*)

Independent Researcher 2019 – 2020

Exploring novel forms of human supervision for controlled medical text simplification.

AI Fellow | Insight 2019

Anomalous Traffic Behavior Generation with Deep Model - Developed an algorithm that can synthesize anomalous vehicle trajectories from normal traffic data using adversarial training.

Graduate Intern | Computer Science, Stanford University 2018

Learning Multi-modal Human Preference with Active Learning (*IROS* 2019)

Developed an algorithm to learn complex *multi-modal* human preferences for how robots should act.
Augmented the query structure of state-of-the-art comparison-based active reward learning algorithm.

Graduate Intern | InterACT Lab, UC Berkeley 2017

Learning Human Preferences with Rich Active Queries (*HRI* 2018)

Augmented the active query-based reward learning algorithm with feature queries.
Significantly sped up the convergence of state-of-the-art preference-based reward learning algorithm.

RA, Robotics Institute | Carnegie Mellon University 2014 - 2015

BLUBot: Bluetooth Localization for Human-Robot Rendezvous

Designed a Bluetooth-tracking system for guest arrival time estimation using RSSI based ranging and probabilistic fingerprinting.

Research Intern | UARC (NASA Data Sciences Group) 2014

PerCCS: Person Count with Machine Learning from CO_2 sensor data (*UbiComp* 2015)

Estimated large room occupancy using CO_2 sensor data and matrix factorization.

GSR, Mechanical Engineering | UC Berkeley 2010 - 2013

Smart Lighting

Developed a complete wireless sensor integrated smart lighting including development of ML models for predicting indoor light distribution and implementation of web-based real-time visualization of sensor data.

Education

2015 – 2019	**Ph.D.**	EECS, University of California, Merced (08/16/2019) **Thesis:** Personalizing Autonomous Driving with Rich Human Guidance I developed algorithms to enable AI agents to learn human preferences interactively.
2013 - 2015	**M.S.**	Advanced Infrastructure Systems, Carnegie Mellon University
2009 - 2013	**M.S.**	Building Science, Department of Architecture, UC Berkeley
2001 - 2006	**B.Arch**	Jadavpur University

Skills

Languages: Python (expert), Java (experienced), C++ (familiar), Javascript, MATLAB, HTML, SQLite, SQL, Android
Machine Learning tools and libraries: Pytorch, Tensorflow, Theano, Recsim, Pandas, NLTK, scikit-learn, Huggingface
Machine Learning experience: Natural Language Generation, Text Style Transfer, Preference Learning, Active Learning, Inverse Reinforcement Learning, Human-robot interaction, Reinforcement Learning, Clustering, Digital Image Processing, Motion Planning, Sensors and Signal Interpretation, Crowd Programming
Engineering: AWS, GCP, Google Cloud Composer, Streamlit, PyWren, Toloka, Amazon MTurk, psiTurk, Raspberry Pi