ROONAK REZVANI

AI Scientist & PhD candidate at The University of Surrey

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EXPERIENCE

Part-time Research Intern

MRC Biostatistics Unit, University of Cambridge

📅 AUG 2020 – FEB 2021

- Developed an R package to analyse observational longitudinal data to estimate the effect of interventions sustained over time with emulating the analysis of a hypothetical randomised trial under a collaborative project named 'Metformin and the risk of multiple sclerosis: A population based cohort study' between MRC Biostatistics Unit and Roche Pharmaceuticals.

AI Scientist

Healthy Home Group, Care Research and Technology Centre, UK Dementia Research Institute

📅 NOV 2019 - Present

- Optimised the recall measure of detecting agitation likelihood in homes of people with dementia by 20% by proposing, designing and implementing a semi-supervised model.
- Improved the precision measure of analysing the risk of incidents at homes of dementia patients by 10% by designing and implementing an attention inspired model.
- Research and project management and dealing with data challenges by working with noisy data with imbalanced labels.

AI Scientist & Project Task Leader

EU H2020 IoTCrawler Project

📅 APR 2018 - JAN 2020

- Search and discovery time improvement in the product by creating and integrating a pattern extraction model for IoT time-series data.
- Response time improvement by doing collaborative designing and developing of an indexing method for IoT time-series data and a lightweight semantic model to annotate IoT streams.
- Leadership and team-coordination with three developers and researchers to design and implement a Geo search engine demo.

SKILLS

- **Programming /** Python / R / C Family
- **Machine Learning /** Keras / Tensorflow / Scikit learn
- **Data Analysis /** Pandas / NumPy
- **Data Visualisation /** Matplotlib / Seaborn / Pyplot
- Academic Writing / LaTeX

TRAINING & WORKSHOPS

- **Oxford Machine Learning Summer School** | Machine Learning in Medicine/Healthcare | AUG 2020
- **Data Science Summer School (DS3) at École polytechnique** | Bayesian modelling, Deep learning and Transfer learning | JUN 2019

EDUCATION

PhD in Machine Learning

University of Surrey

📅 Expected graduation: SEP 2021

B.S. in Computer Science

Shahid Beheshti University

📅 SEP 2013 - JUL 2017

ACTIVITIES

Vice President, Surrey Reproducibility

📅 JUN 2019 - Present

- Improved research culture at The University and guided researchers to apply open research protocols in their research.
- Organised around 17 workshops, 14 journal club sessions and published around 36 newsletters.
- Attracted an online crowd of $300+$ attendees by leading the first ReproducibiliTea virtual meeting.

Conference & Journal Reviewer

- IEEE Transactions on Big Data / IEEE Transactions on Cybernetics / IEEE/ACM Conference on Web Intelligence / IEEE Computer Society Signature Conference on Computers, Software and Applications

Programme Officer, University of Surrey Doctoral College Conference

📅 JUN 2020

- Managed the abstract reviewing process and arranged the conference schedule. Conference had in total around 300 online attendees in two days with 98% attendance rate.

Academic Teaching Experience

- Internet of Things Laboratory / Algorithm Design

PUBLICATIONS

- H. Li, R. Rezvani, M. A. Kolanko *et al.*, **"An attention model to analyse the risk of agitation and urinary tract infections in people with dementia"**, *IEEE Transactions on Cybernetics*, under review.
- V. Janeiko, R. Rezvani *et al.*, **"Enabling Context-Aware Search using Extracted Insights from IoT Data Streams"**, *Global Internet of Things Summit (GIoTS)*, 2020.
- R. Rezvani, P. Barnaghi, S. Enshaeifar, **"A New Pattern Representation Method for Time-series Data"**, *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, December 2019.
- R. Rezvani, S. Enshaeifar, P. Barnaghi, **"Lagrangian-based Pattern Extraction for Edge Computing in the Internet of Things"**, *The 5th IEEE International Conference on Edge Computing and Scalable Cloud (IEEE Edge-Com)*, Paris, June 2019.