Arumoy Shome

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Website Github LinkedIn

Education

2018–2020 **Msc. Computer Science, Big Data Engineering**, *Vrije Universiteit Amsterdam & Universiteit van Amsterdam*, Amsterdam, The Netherlands.

2012–2018 **Bsc. Honours System Design Engineering, Entrepreneurship Option**, *University of Waterloo*, Waterloo, Canada.

Publications

2019 **ACE: Art, Color and Emotions**, *ACM International Conference*.

- Created a data driven platform for exploring visual sentiment and emotion in artistic paintings over time.
- Trained a custom visual artistic sentiment extraction model using the OmniArt dataset.
- The platform is web based and built using D3.js and Javascript.
- The paper can be accessed via the ACM Digital Library and a short demo of the application can be found on Youtube.

Public Projects

2018 **3D Kadaster**.

- Developed a 3D model of all buildings in The Netherlands using AHN2 point cloud dataset and BAG building polygons dataset.
- Processed data using Apache Spark, ran algorithms on SurfSara's Hathi cluster and created visualisations using Three.js.
- Detailed information on the research question, datasets and methodology can be found in the paper and the visualization can be viewed on the project website.
- The project received recognition and was added to the course instructor's Hall of Fame.

2018 **Knowledge Acquisition from CommonCrawl**.

- Applied a complete knowledge acquisition pipeline to WARC datasets using Natural Language Processing, Part of Speech tagging, Named Entity Recognition and Entity Linking.
- The algorithms were run in parallel using Apache Spark on the DAS4 cluster.
- Proposed a novel idea to improve entity retrieval using machine learning, details for which can be found in the paper.

2018 **Elevate**.

- Collaborated with Waterloo Regional Down Syndrome Society, Canada and Fundacion Paraiso Down, El Salvador.
- Developed an improved and cheaper alternative to the state-of-the-art cognitive assessment tool for individuals with Down Syndrome using a Systems approach.
- Developed a business plan and presented the product at several startup incubators and pitch competitions to procure funding.
- An overview of user research, design methodology and engineering solution can be found on the project website with additional details in the paper.

Work Experience

Mar–Sep 2020 **Research Intern**, *Netherlands eScience Center*, Amsterdam, The Netherlands.

- Conducted interdisciplinary research in the field of Computer Science, Artificial Intelligence and Particle Physics.
- Worked in collaboration with researchers from 3 institutes namely Universiteit van Amsterdam, Netherlands eScience Center and Nikhef.
- Conducted Signal Processing using Multi Layer Perceptrons to identify highly elusive neutrino particles.
- Implemented a novel Data Processing Pipeline for the KM3NeT Neutrino Telescope using state-of-the-art Graph Convolutional Networks.
- The pipeline was implemented using Python and deep learning models were developed using Pytorch.
- Details on the research questions, dataset and methodology can be found in the paper. The project is open sourced and available on Github.

Apr–Jun 2020 **Graduate Teaching Assistant**, *Vrije Universiteit Amsterdam*, Amsterdam, The Netherlands.

- Part-time teaching assistant to the Data Mining Techniques graduate course at Vrije Universiteit Amsterdam presented by Dr. Mark Hoogendorn.
- Managed 17 student teams and helped them with the practical assignments presented in Python.
- Conducted weekly online tutorial sessions with students and clarified doubts regarding course logistics, concepts and theory.
- Graded 70+ student assignments and provided constructive feedback. Managed students performed well in the course with an average grade of 8.7.
- Received highly positive remarks from student evaluation.

2015–2016 **Web Developer Intern**, *Shopify*, Ottawa, Canada.

- Worked as part of a dynamic team of developers, designers and product managers to implement numerous features such as web components, animations and styling on a mature Ruby on Rails project using Ruby, Javascript, HTML, & SCSS.
- Practised object oriented design principles and test driven development to refactor code and improve test coverage.
- Used Object Relational Mapping to lazy load data, reduce database calls and minimise server response time thus improving the application load time.

2014–2015 **Intern & Freelance**, *Various*, Various, Canada.

- Worked at various large and small scale companies as part of University of Waterloo's Co-op program.
- Worked as a freelance Ruby on Rails developer and created web applications as per client specifications.
- Developed soft skills such as critical thinking, clear communication and conflict resolution which are vital in a professional environment.
- Successfully completed technical projects such as designing, creating, testing and maintaining web applications and writing shell scripts to automate testing frameworks.
- More information can be found on LinkedIn.

Skills

Technical.

- Proficient in **Python, Ruby, Javascript, Latex & Shell Scripting**.

Communication.

- Native or bi-lingual proficiency in **English & Hindi**.
- Elementary proficiency in **Dutch**.