Syed Rizvi

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RESEARCH INTEREST

Spatiotemporal modeling, Graph Neural Networks, Convolutional Neural Networks

EDUCATION

College of Natural Science and Mathematics, University of Houston, TX
Bachelor of Science in Computer Science **May 2023**
Cumulative GPA: 3.97, Major GPA: 3.9

PUBLICATIONS

- Cicalese, P.A., **Rizvi, S.A.**, Wang, V., Patibandla, S., Yuan, P., Zare, S., Moos, K., Batal, I., Clahsen-van Groningen, M., Roufosse, C. and Becker, J. "MorphSet: Improving Renal Histopathology Case Assessment Through Learned Prognostic Vectors". *International Conference on Medical Image Computing and Computer-Assisted Intervention.* Springer, Cham, 2021.

PRESENTATIONS

- MorphSet Research Project Abstract, 2021 AI in Nephropathology Workshop in Amsterdam
- Natural Language Processing and Entity Recognition Models, Phillips 66

AWARDS AND RECOGNITIONS

- Provost's Undergraduate Research Scholarship, University of Houston
- Dean's List, University of Houston
- Third prize in AWS & NVIDIA Environmental Hackathon, 2020

RESEARCH EXPERIENCE

HULA Research Laboratory, Houston, TX **September 2020 - Present**
Undergraduate Researcher

- **MorphSet: Improving Renal Histopathology Case Assessment Through Learned Prognostic Vectors**
  We propose two case-level Convolutional Neural Network architectures for case-level classification of Antibody-Mediated Rejection in kidney patients. Both architectures encode a sampled set of glomerular compartment images and output confidence predictions at the case-level, bypassing the need for any expensive annotation of individual glomerular compartments. We demonstrate that our set-based architecture and sampling method are effective for achieving high case-level accuracy.

INDUSTRY EXPERIENCE

Phillips 66, Houston, TX **May 2021 – August 2021**
IT Intern (Natural Language Processing)

- Wrote Python scripts for extracting and cleaning text from 254 contract documents, resulting in a dataset of 2,717 text segments
- Trained and deployed domain-specific entity recognition models on AzureML cloud services, identifying 6 contract entities within unstructured text and reaching 87% overall model precision
- Developed an automated Azure Function App to run preprocessing and inference on contract documents at test time within 12 seconds
- Delivered NLP project presentation to IT leadership members and Data Science team at Phillips 66

INDEPENDENT PROJECTS

Autoencoder Anomaly Detection **August 2020**

- Trained an unsupervised autoencoder to recreate environmental sensor data taken from Amazon's Seattle Sphere conservatories
- Wrote evaluation functions to flag anomalies based on mean absolute error of data reconstruction
- Placed 3rd in the AWS & NVIDIA Environmental Hackathon ($3000 award)

COURSEWORK

Online Courses

- Machine Learning, Stanford University on Coursera
- Data Science Specialization, IBM on Coursera

University of Houston

- Multivariable Calculus
- Fundamentals of Artificial Intelligence
- Introduction to Machine Learning and Data Science

ACTIVITIES

Management Information Systems Student Organization **January 2020 – Present**

Professional Development Committee Member

- Worked with teams of 20+ committee members to perform 60+ resume reviews per semester following resume guidelines set by the C.T. Bauer College of Business