

Sammed Shantinath Kagi

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EDUCATION

- **Indian Institute of Technology, Gandhinagar** Gandhinagar, India
Bachelor of Technology in Computer Science and Engineering; CPI: 7.59 *July. 2016 – July 2020*

PUBLICATIONS

- **MIPE: A Metric Independent Pipeline for Effective Code-Mixed NLG Evaluation**
Ayush Garg*, Sammed Shantinath Kagi*, Vivek Srivastava, Mayank Singh
Evaluation & Comparison of NLP Systems, EMNLP 2021
- **SEAL: Scientific Keyphrase Extraction and Classification**
Ayush Garg*, Sammed Shantinath Kagi*, Mayank Singh
ACM/IEEE Joint Conference on Digital Libraries (JCDL) 2020
- **[Re] Hamiltonian Neural Networks**
Ayush Garg*, Sammed Shantinath Kagi*
NeurIPS Reproducibility Challenge 2019, **ReScience C Journal**

CERTIFICATES

- **Deep Learning Specialization - deeplearning.ai**

EXPERIENCE

- **Wadhvani AI - AI for Social Good** Mumbai, India
Associate Software Product Engineer *October 2020 - Present*
 - **Tuberculosis** - Built automated end-to-end data ingestion pipeline for the hospital doctors to upload ultrasound videos of patient to a secure cloud storage space. Reduced time spent on data collection from multiple days to 1 hour. Also added an automated pipeline for the data to be validated and be sent to annotators to be annotated.
 - Worked on the **Pest Management** Dashboard - a dashboard to maintain and analyze the spread of pests in cotton farms in various states, districts and farms. Farm supervisors were able to take quicker targeted actions based on the visual data. Implemented front-end modifications for better viewing of pest images.
 - Worked on internal tools to build workflows for AWS data and security management on which future micro-services and compliance systems were deployed. Built automation pipelines integrated with AWS to improve resource management which leads to better utilization of grant funds.
 - **Technologies Used:** Django-Rest-Framework, SQLite, React JS, Redux, Material-UI, Python, AWS
- **Redpine Signals** Hyderabad, India
Artificial Intelligence Engineer *July 2020 - October 2020*
 - Worked on understanding and building Dynamic Deep Neural Networks and customizing the working of [Glow](#) compiler to accelerate the performance of the neural network on multiple hardware platforms
 - Worked on understanding Graph Neural Networks, its applications and methods, and ways to build hardware accelerators for the same.

INTERNSHIPS

- **Multi Commodity Exchange of India** Mumbai, India
Python and SQL Developer *May 2019 - July 2019*
 - **Automated Birthday Email:** Scheduled VBA (Client side) and SQL Procedure (Server side) scripts to automate the Birthday Email sending job with inline HTML, CSS , VML template. Deployed on the organization's production server.
 - **Bhavcopy:** Web scraping - Python scripts for Historic and Real-time data scraping and ingestion into big data cluster.
 - **iCOMDEX Computation:** Understood iCOMDEX index value computation and wrote python scripts to automate based on an algorithm [methodology document](#)

PROJECTS

- **NLP - Metric Independent Pipeline for Code-Mixed NLG Evaluation** [Report](#)
Mentor : [Prof. Mayank Singh](#) *July 2020 - Oct 2020*
 - Built a system to evaluate code mixed language generation tasks. The system was built to be independent of the baseline metric but solves all the major challenges faced by them while evaluating code-mixed texts.
 - The system was able to produce scores which correlated more to the human scores when compared to the existing mono-lingual evaluation metrics in almost all test case scenarios.
 - **Technologies Used::** PyTorch, sklearn modules.
- **Full Stack application - CourseGenie**
 - An academic course cataloging website with features for professors to propose new courses; approve/ rejecting/ requesting edit for the submitted proposals by administrators and viewing of the approved courses by the student community are some of its features.
 - This system is currently deployed on our institution server and is under testing stage.
 - **Technologies Used::** Django, SQLite, HTML, CSS, Bootstrap
- **NLP - Key-phrase Extraction and Classification from Scientific Documents** [Report](#)
Mentor : [Prof. Mayank Singh](#) *Aug2019 - Nov 2019*
 - A system to extract key-phrases from scientific journals and research papers and classify them into categories like Process, Task, Material etc.
 - Our system surpassed the state of the art F1 scores in both the tasks, extracting (1%) and classification (10.44%) of key-phrases.
 - **Technologies Used::** PyTorch, Keras, sklearn modules.
- **Hamiltonian Neural Networks** [Report](#)
Mentor : [Prof. Nipun Batra](#) *Oct 2019 - Dec 2019*
 - This paper proves that the generic Neural Networks do not conserve energy as stated by the basic laws of physics and they need to be modified using the concepts of Hamiltonian mechanics resulting in Hamiltonian Neural Networks
 - Reproduced all the results mentioned in the original paper in Tensorflow and added a few more experiments, not present in the original paper, to prove the above statement
 - **Links:** [Paper](#), [GitHub Code](#), [ReScience C GitHub](#), [Original Paper](#)
- **Deep Learning - Unsupervised Cross Domain Image Generation** [Poster](#) — [Report](#)
Mentor : [Prof. Nipun Batra](#) *Jan 2019 - Apr 2019*
 - A domain transfer network to generate images in the domain of MNIST from SVHN and in the domain of Bitmoji from MS Celeb Data.
 - A modified Generative Adversarial Network with custom loss function is implemented to achieve domain transfer in an unsupervised manner. Achieved 77.6% on MNIST classifier on generated images & were visually identifiable.
 - **Technologies Used::** PyTorch

TECHNICAL SKILLS

- **Programming Languages:** Python [Proficient], C, C++[Intermediate]
- **Web Technologies:** React JS, Redux, HTML, CSS, MySQL, Django, MongoDB, JavaScript, AWS Services

POSITIONS OF RESPONSIBILITY:

- **Chief Election Commissioner:** *Student Election Commission - IIT Gandhinagar*
 - Led a team of 6 students and conducted the Student Council Elections of IIT Gandhinagar 2019-20.
 - Record voter turnout in the history of IIT Gandhinagar with a 12% increase in student participation breaking the 50% bar for the first time.
- **Ignite 4.0 Core Committee:** *Inter-College Technical Fest of IIT Gandhinagar*
 - Lead a team of 80 students to organize the event.
 - Got an exposure of handling logistics, management of different departments, scheduling and marketing of events.

ACADEMIC ACHIEVEMENTS

- Recipient of **Excellence Funds Scholarship** for the research paper SEAL: Scientific Keyphrase Extraction and Classification for excellent research.
- **Second** highest rated journal publication in **ReScience C Journal** for the NeurIPS Reproducibility Challenge 2019
- **Best Paper** nomination for the research paper MIPE: A Metric Independent Pipeline for Effective Code-Mixed NLG Evaluation

EXTRA-CURRICULAR ACTIVITIES

- **Drama Society**- Performed multiple stage and street plays and represented IIT Gandhinagar in Inter IIT Cultural Meet in the Street and Stage play competition held in December 2017.
- Event Organizer of Innovent at **Amalthea**'17- a platform to present creative solutions to problems based on a given theme.