

# Sairam Pillai

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## EDUCATION

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- **Vishwakarma Government Engineering College** Ahmedabad, Gujarat  
*Bachelor of Engineering in Computer Engineering; CGPA: 8.98*  
July. 2013 – May. 2017
- **St. Xaviers, Loyola Hall** Ahmedabad, Gujarat  
*Higher Secondary Education; Percentage: 86%*  
June. 2011 – April. 2013

## EXPERIENCE

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- **Cybage Software** Gandhinagar, Gujarat  
*Software Engineer, Machine Learning*  
June 2017 - March 2019
  - **Metalogix Content Analysis:** Worked on the project for my entire tenure in Cybage. Main responsibilities include gathering requirement, explaining machine learning based solutions to clients, improving performance of the models and providing actionable insights to stakeholders. Following are some key areas which I got to work on.
  - **Statistical model:** Worked on troubleshooting a frequency analysis based statistical model for named entity recognition written in SQL. Created own corpus and trained the statistical model using Stanford NER to improve baseline performance and showcase potential for improvement in the model.
  - **Supervised Document Classification:** Worked on Machine Learning methods to perform Supervised Document Classification. Created baseline model using out of the box method like Doc2Vec on open sourced data. Demonstrated an achievable accuracy of 85% on the task. Replicated the same performance using an LSTM and word embeddings in PyTorch framework.
  - **Unsupervised Document Classification:** Worked alongside a designated Computational Linguist to design and implement proprietary models to perform unsupervised document classification using Word2Vec word embeddings. Created word embeddings using English Wiki corpus for the same.
  - **Topological Data Analysis:** Worked on Topological Data Analysis using packages like ripser to enhance said proprietary models. Used persistence barcodes to understand details about the topology of the data.
  - **Python development:** Worked on restructuring and refactoring Python code for performance and improved performance of previously unoptimized code by 30%. Increased throughput of analysis of documents and achieved 4.5x speedup in single machine multicore CPU using multiprocessing. Worked on packaging and delivering the Python code to a staging and training environment internally using Azure DevOps. Created API specification and design documents to integrate developed models into the existing C# business logic.
  - **Machine Learning Training:** Provided machine learning training to team and stakeholders. Received accolades for presenting technical concepts of Machine Learning in an easily understandable way.

## PROJECTS

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- **Finding related documents for searching and recommendation using Word Embedding - Final Year Project:** We embed unstructured documents in a multidimensional vector space for efficient lookup, storage and retrieval of similar documents. We achieved this by using an unsupervised neural network language model called word2vec and its extension doc2vec after exploring various keyphrase extraction and topic modelling algorithms. We created a GUI and poster for live demonstration which got us Third place in Open House 17 (State Level Project Competition) held at VGEC.

## ACTIVITIES

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- **ACM ICPC 2015 and 2016:** Qualified and participated in Amritapuri Onsite Regionals held at Amrita University.
- **GTU Central Techfest 2016:** Part of the organizing committee and designed posters and magazine for the annual techfest held at Vishwakarma Government Engineering College, Ahmedabad.