SHILPA (SHIL-PA) NARAYAN (NA-RA-YUN)

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Highly motivated, technical project manager and data scientist with 14 years of broad experience working in fast-paced environment. Experienced in leading and delivering software, analytics, and data science projects. Passionate about leading from ground up incorporating agile and lean methodologies. A strong champion for Diversity, Equity, and Inclusion, has a proven passion for positively influencing, inspiring, and driving change in the workplace on diversity and representation.

WORK EXPERIENCE

Asst. Director for Data Analytics, ***Division for Diversity, Equity and Inclusion***,
University of Virginia, Charlottesville, VA ***April 2021 - Present***

- Led a cross-functional team of four to transform equity metrics into an insightful dashboard using Qlik Sense
- Deployed a NLP based Latent Dirichlet Allocation model to summarize thousands of course evaluations and climate survey data of students and provide insights to administrators to improve teaching and learning strategies
- Designed a predictive model using *Imbalanced Random Forest* to identify Pell grant offered students using US Census data to increase their enrollment at UVA
- Created data pipelines for automating collection, transformation and aggregation of thousands of student/staff climate survey results and generating reports using python
- Developed various student dashboards using python and Qlik Sense such as student performance, success to identify DFW rates, attrition and completion rates, persistence dashboards which helps department Chairs track students' STEM interest and major persistence, benchmarking dashboard for staff engagement surveys, faculty pipeline dashboard which improves equity of faculty recruitment etc

Lead Data Analyst, *Institutional Research and Analytics,*
University of Virginia, Charlottesville, VA ***July 2016 - April 2021***

- Led the development of a COVID-19 Dashboard which was used by the Provost Office, Student Affairs, Bio-Complexity team, registrars at all schools of UVA which helped to plan for students' testing schedule, provide reporting to the state government
- Designed and created Student and Curriculum Dashboards for Center for Teaching Excellence (CTE) using Qlik Sense which helped in making data-driven informed decisions to improve teaching culture and student learning experience. Through these dashboards CTE impacts ~ 16,000 undergraduate students and hundreds of faculty members at UVA
- Led team successfully to convert about 1500 users to Qlik View from Oracle Discoverer. Managed product backlog which included multiple iterations of prioritizing requirements and managing scope resulting in streamlining ~ 200 Discoverer Finance and Student reports to 80 Qlik View modules in 18 months

Data Analyst, *Syneren Technologies Corporation, Arlington, VA* ***July 2015 - June 2016***

- Gathered the federal agency's proposal requirements and led the Cradle-to-Grave proposal process including following activities
- Analyzed requirements, developed technical solutions using various data visualization tools
- Conducted gap-analysis for opportunities and made bid/no-bid decisions
- Scheduled project timelines and coordinated with team members to meet milestones

Software Developer, *Progress Software, Hyderabad, India* ***March 2012 - June 2013***

- Interacted with clients from Americas, Europe and Asia to resolved complicated Java based technical issues and achieved a 100% customer satisfaction rate across all the revenue tiers
- Advised users on best practices of using the products and reports
- Received consistent excellent scores in Team Quality Index (TQI) - A metric measuring quality of employee's technical skills along with verbal, written, customer interaction skills

Full Stack Developer, *Hewlett Packard, Chennai, India* ***November 2009 - March 2012***

- Developed a Java based module for 4 projects by analyzing the business requirements which helped Telstra migrate to fiber internet technology and resulted in 46% cost reduction
- Established strong relationship by visiting client site in Australia to bridge gaps and align expectations. Successfully met stringent deadlines associated with the project
- Trained and mentored a team of six interns. Assigned tasks and evaluated their individual performance

Projects:

- *Rescuing survivors under tarps - Haiti Earthquake (Machine Learning Algorithms Comparison)*

  Developed and implemented five ML models (*Logistic, KNN, Random Forest, Linear SVC, SVM*) using *scikit-learn* to classify Blue Tarps and rescue earthquake survivors. Automated the implementation to find optimal *F1-score* threshold based on *precision-recall* curve and determine cost tradeoff between *false positives and false negatives*. Conducted hyperparameter tuning and cross validation using *pipelines and grid search* to find the optimal parameters. Finally compared various classification metrics such as *accuracy, log-loss, precision, recall and run-time* to choose the optimal algorithm.

- *Network analysis for impact of python packages (Using python NetworkX)*
  Contributed to a NSF grant to measure the impact of open source software. Identified influential actors, e.g., packages, developers, countries by using the impact measures. Used network-based statistics include centrality measures such as degree, and eigenvector centrality. Moreover, we calculate the cost of software development and study the relationship between development cost and impact of Python projects.

- *Predicting education level using US Census data (using PySpark)*
  Implemented a Random Forest ML model in PySpark to predict education level for a resident based on various household characteristics. Used Principal Component Analysis (PCA) to reduce the dimensions and identify the most contributing predictors. Optimized the runtime by using graph based cross validation methods in PySpark.

- *Course Recommendation System (Using Neural Collaborative Filtering – not public)*
  Developed a model to help administrators to recommend courses as electives to students

EDUCATION

University of Virginia (UVA), Charlottesville, VA ***June 2020 – May 2022***
Master of Science (Data Science)

University of Virginia, Charlottesville, VA ***August 2013 - May 2015***
Master of Public Policy

Anna University, Chennai, India ***August 2003 - May 2007***
Bachelor of Engineering (Electrical)

TOOLS AND CERTIFICATIONS

- Python *(Pandas, Scikit-Learn, Numpy, Keras, TensorFlow, PyTorch, NLP, NetworkX)*, PySpark, R, SQL, Java
- Tableau, Qlik Sense, Visual Studio, R Studio, R Markdown, GitHub, Office 365 Suite, Smart Sheet, Jira, Confluence
- Advanced Training and Certifications: Equity-minded evidence-based decision making, Grassroots Analytics Leadership, Management Essentials for a Developing Leader, Project Management, Scrum Product Owner, Leading a Lean Transformation, Excellence in communication: Presenting as a Leader