

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

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Highly motivated and technical program manager with 14 years of broad experience working in fast-paced environment. Experienced in leading software engineering, analytics, and data science teams. 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 Assessment and Data Analytics, *Division for Diversity, Equity and Inclusion,*

University of Virginia, Charlottesville, VA

April 2021 - Present

- Led a team of five to define and build 174 equity indicator metrics for students, staff and faculty to improve equitable decision making. Collaborated with a cross-functional teams to transform equity metrics into an insightful dashboard using Qlik Sense
- Created a data pipeline for automating collection, transformation and aggregation of thousands of student/staff climate survey results and generating reports using python
- 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
- Deployed a predictive model using *Imbalanced Random Forest* to identify Pell grant offered students using US Census data to increase their enrollment at UVA
- Developed various student dashboards using python and Qlik Sense to identify DFW rates, attrition rates, major persistence which helps department Chairs track underserved students' STEM interest and major persistence.
- Built benchmarking dashboards for staff engagement climate surveys and faculty pipeline which improved employees' sense of belonging and equity in hiring practices.

Data Science Projects, Student, *Virginia, Charlottesville, VA*

June 2020 – May 2022

Relevant Course Work: Deep Learning, Machine Learning, Text Analytics, PySpark

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

Project Lead/Senior Business 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

Project 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 Engineer, 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

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, Databricks, 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