

# Rishabh Lala

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Seasoned tech enthusiast with ~7 of structural engineering experience looking for a job in technology or hybrid.

## EDUCATION

### University of South Florida

Masters in Business Analytics and Information Systems (focus on Artificial Intelligence)

(May 24)

GPA: 4/4

### University of Florida

Master of Science, Civil Engineering (focus on Structural Engineering)

(May 18)

GPA: 3.77/4

## SOFTWARE SKILLS

### Tech Skills:

**Data Visualization:** Tableau, PowerBI, Qlik, Google Looker, Python, R

**Data Storage:** MySQL, Microsoft SQL Server Management Studio, MS Azure, NoSQL databases like Cassandra, MongoDB

**Text Processing:** Executing Linux Commands through VIM (text-editor), Python natural language processing tools.

**Console:** Git-Bash, Cygwin

**Designing:** Video editing, Flyer Designing with Adobe InDesign, Adobe After effects, AI tools for Designing

**Excel:** Macros, VLOOKUP, and Pivot Table

**Machine Learning:** AZUREML, Python: image processing through ML, supervised and unsupervised learning models.

**Web-Development:** AWS-EC2 Instance, Webhosting, VPC, HTML, CSS, JavaScript

**Typing Speed:** 65 WPM

**CAD:** MathCAD, MATLAB, AutoCAD, MicroStation, Finite Element Analysis

**Phone App Development:** Power Apps, Android App Development using Eclipse.

### Business Skills:

**UML:** (Use case, Sequence, Activity, Class Diagram) for business products, Lift Curves, Market Basket Analysis

**Business Development:** Developed new business around SB-4D Building Safety Law, Cost Benefit Analysis using Machine learning tools, AI tools to generate marketing YouTube videos.

**Statistics:** ANOVA test, Assumption testing for Linear Models, Maximum Likelihood and OLS models, Fixed and Random Effect Models, Panel Data effects

**MS CRM Tools:** Dynamics 365 field service

**Automation:** Power Automate, Zapier

## TRANSFERRABLE SKILLS

Report writing, client communication, work automations, and business development.

## EXPERIENCE & COMMUNICATION

### Southland Holdings – Project Engineer (Orlando, FL)

Dec 22 – Present

- Engineering, detailing, pre-planning each bridge construction phase, and helping field engineers find solutions.
- Finite element modeling using SAP2000 and design for design of large steel formwork Dolphin Structure that protects the bridge from ship impact. Also, perform ETL using Python for data cleaning of finite element output.
- Developed plans for execution of a bridge at US-19, Tampa, FL

### McCall Engineering (Sarasota, FL)

May 22 – Dec 22

- Developed good understanding of SB-4D Building Safety Law & made two marketing [YouTube videos](#) on it
- [Forensic investigation](#) of a 2-story condo roof and other components at Venice, FL coastline hit by hurricane Ian & resolved their 60-day vacate notice issued by another engineer and guided them for insurance claims estimate
- Designed more than 35 one story houses and a few two-story houses
- Marketed, won, and completed a \$38,000 engineering inspection projects

### Florida Bridge and Transportation Inc (Orlando, FL)

Jul 18 - Apr 22

**Signature Bridge, SR 836 (I-395) Miami Dade County**–Worked with HDR as subconsultant for the plan development and rebar list development of the suspension cable bridge project, also called the Spider Bridge. Also developed built-in automation tool in the rebar listing methodology using Excel macros.

**Other Bridge Projects**– I have worked on calcs (super and substructure), rebar list, and various other componer on Turnpike bridges, 408 bridges, Ped Bridge in Tampa as sub to Patel and Greene, and GFRP bridges.

### Graduate Research Assistant, Advisor Dr. Gary R. Consolazio, Professor, UF

Oct 17- May 18

- ETL for finite element output to filter out relevant nodes, and output using PERL and PYTHON
- Investigated truck impact on low profile concrete barriers using non-linear FEA simulations
- Finite Element modeling of Cannelton Dam piers.
- Developed macros, Python programs for finite element data cleaning, extraction, transformation, and analysis
- Automated spot welds removal from output data, and few other recurring FEA solutions.

### Florida Structural Engineering Association (UF - Chapter) (9 months)

- Supervised cash management activities like ensuring budget approvals and convincing sponsors

Oct 17 – May 18

## TECH AND ENGINEERING PROJECTS

- **Web Hosting:** Developed several websites including printmario.com (ecommerce), rishabhskills.com (personal) amongst others using HTML, CSS, JavaScript, and sometimes using web development tools like wordpress.com and weebly.com.
- **Power Apps Development:** Developed inventory management and product price calculator app using Microsoft Power App development. This is currently being used by Print Mario employees in India.
- **Applied Statistics Project:** Developed correlation models like LMER model, PLM model, and checked for fixed effects and random effects on Price (target). Further, ran linear regression model to test for heteroskedasticity, independence, and multicollinearity to find out if promotional strategies adopted by stores influence total spending on a product, and the frequency of store visits (price elasticity).
- **Android App Development (personal project):** Developed android application for an engineering Quiz for the freshmen students in civil engineering during my bachelor's degree.
- **Data Visualization:** Visualizing the adoption of AI using Tableau. I have prepared dataset using SEC filings of S&P 500 companies for the data visualization. I am using Python to filter out the PDFs to study the number of times each company used AI in their annual reports and SEC filings for the Data Visualization using Story Telling Coursework.
- **TTS (Text to Speech):** I have worked on most types of machine learning models. The most interesting project I undertook was a text to speech machine learning model development using Python TTS packages to allow for speech generation in a voice that is used for training the model.
- **Instagram Automation Model with AI integration:** Developed a Python-based automation tool with AI integration to handle customer queries on Instagram, enhancing response times and customer service efficiency. This automation can help businesses respond to customer queries using their own database with the help of AI integration (ChatGPT API integration).
- **Business Development: SB 4D:** The Building Safety Law SB 4D, passed in 2022, led me to develop a new business stream for McCall Engineering. I was able to convince my employer to take it up as a business, brought in a few clients, and made YouTube videos to convince many potential clients to hire us for the building safety inspection. This way I learned about business development skills, customer dealing skills, and timely project delivery skills as a project delivery manager.
- **AI audio and video generation (personal project):** I have learned to produce videos for marketing using artificial intelligence tools with speech generation capabilities. The videos that would typically take a week to develop can be done in a couple of hours.
- **Business Insights using SQL:** Using MS SQL server management studio with AWS integration, I have learned to develop schemas in SQL. Also, I was able to answer several business questions SQL queries as a part of the coursework. I used inner and outer joins to obtain business insights like top customers, top suppliers, oldest employees, and other business questions.
- **Kirkman Road Ext: SR 435: Bridge 5, 6, 7:** Erection Plans: planning the type of crane, with its load carrying capacity, operating radius, and the access to truck. Produced erection sequence drawings and made site visits.
- **Kirkman Road Ext: SR 435:** watched the live demolition of an existing bridge using a crane and hammer and participated in field discussions and brainstormed ideas about the bridge demolition.
- **Shands Bridge - Jacksonville:** CAD drawings on the pile template options, and mechanisms that can work to construct the large cylindrical piers in deep waters. Took part in meetings with superintendents of the projects and other field crew to understand what they have in mind and attempted to put that on CAD and through design checks.
- **Currently working on Dupont Bridge Proposal:** Coordinating with partner engg. firms on potential solutions of the type of bridge in deep and fast running waters, large foundations, eliminating piers, fender systems, piles-types, span length, superstructure type: steel or concrete, access to bridge construction, potential use of Articulating Concrete Blocks, etc.