

# Deekshith Rao Juvvadi

## Software Developer

+919971620531 | [jdrao12@gmail.com](mailto:jdrao12@gmail.com) | [LinkedIn](#)

### Summary

Self-driven Software developer with 9 years of experience including Data Science, Web Development and Generative AI. Known for strong analytical & problem-solving skills. Proven ability to learn quickly and collaborate effectively. Passionate about building software.

### Skills

**Languages:** Python, Java, Javascript; **Gen AI:** Langchain, Vector databases, HuggingFace, PyTorch, TensorFlow, RAG, Agents, Prompt engineering; **Web Development:** Flask, SQL, jQuery, D3.js, Html, Css; **Data science:** Pandas, Numpy, R, Scikit-learn; **Data Visualization:** Seaborn, Matplotlib; **Cloud & Deployment:** AWS, Kubernetes, Docker;

### Professional Experience

#### Self-Employed / Data Scientist & Developer

OCT 2022 - PRESENT, HYDERABAD

- Built PoCs for products involving Generative AI & Algorithmic Trading.  
[Credible Fact-Checking:](#) *Flask, Langchain, Llama.cpp, Pandas, SQL*
- Formulated an automated fact-checking tool that empowers users in fighting misinformation.
- Involves Retrieval-Augmented Generation using **LLMs** & a **Vectorstore**. *Llama 2, MPNet, Faiss*
- Used Llama.cpp effectively to make the Llama-2 7B LLM **compute & memory efficient**.
- Options Trading Strategy:** *Flask, Pandas, Javascript, Redis, Websockets*
- Developed a web app to enable users to execute an Options trading strategy using Zerodha API.
- Built a **mock-trading engine** for validating and optimizing the performance of the strategy.
- Math Test Evaluation Engine:** *Langchain, OpenAI API, Agents, Prompt engineering, Function calling*
- Implemented an engine which can assess student responses to math questions involving calculations, reasoning and symbolic math using a ReAct agent with Function / Tool calling.
- Miscellaneous:** *Django, Next.js, Docker, Wagtail, Selenium, Dash, Pandas, MongoDB*
- Built multiple projects 1. Productivity dashboard based on markdown data, 2. Stock picker by crawling prediction data from a popular website, 3. Portfolio website using Django & Next.js.

#### Mentor Graphics (Siemens DISW) / Lead Member Technical Staff

NOV 2015 - MAR 2021, HYD

- Led** all Divisional data analytics & report automation projects. *QlikView, SQL, Agile, Scrum*
- Automated the analysis of yearly quality surveys using **text analytics** techniques. *R*
- Integrated multiple sources of enterprise data using automated scripts. *SQL*
- Generated yearly product release statistics for Divisional Senior Management *QlikView, Excel*
- Trained, **mentored** and led 3 interns. Also **trained 15** other divisional stakeholders.
- Experienced in working with various database types. *PostgreSQL, SQL Server, MySQL*

#### Jeevomics / Data Scientist & Developer

NOV 2014 - AUG 2015, NEW DELHI

- [Prostate Cancer DREAM Challenge](#) - Led a team of 3 to **stand 2<sup>nd</sup> & 3<sup>rd</sup>** in the 1<sup>st</sup> & 2<sup>nd</sup> rounds in a predictive modeling research competition. Used Cox proportional hazards regression model - *R*
- Clinical Data Dashboard - for [Agiros Pharmaceuticals, Inc.](#), created an interactive dashboard, for clinical lab data. Includes creating a **motion chart from scratch**. *Pandas, Flask, D3.js, jQuery*
- Statistical Coupling Analysis - for [The Consulting Biochemist](#), recreated 3 statistical algorithms in Python based on the Bioinformatics Toolbox of Matlab. *Python, Matlab*

#### Broadcom / Staff-I Engineer (Systems Design)

SEP 2012 - NOV 2013, BENGALURU

- Responsible for physical layer algorithm design for Link Adaptation in 4G-LTE baseband processors including Matlab-based simulations and validation using lab tests.
- Optimized the performance of algorithms used to determine Channel Quality Information.
- Tuned the rank-indicator (RI) selection method used under Fixed MCS conditions. *Python, Matlab*

### Research / Publication

#### IIT Kanpur / M.Tech Thesis

JUL 2011 - AUG 2012, KANPUR

- Generated 3 results which required **proving 3 advanced math theorems**: 1. reduced complexity of JB-Page test by order of one, 2. convergence of matchlengths between a stationary ergodic process & a stationary markov  $\Psi$ -mixing process, 3. convergence of an estimator of divergence between a stationary ergodic & a stationary markov  $\Psi$ -mixing process.
- Formulated a novel universal change-detection test for Sequential Change Detection problem where the distributions before and after the change are unknown.

#### IEEEExplore / Research paper

- Juvvadi, Deekshith R., Bansal, Rakesh K., "[Sequential change detection using estimators of entropy & divergence rate](#)," National Conference on Communications, 2013.

### Education

BTech-MTech Dual Degree (EE)	IIT Kanpur (JEE All India Rank - 364)	8.0/10	2007-12
Senior Secondary (XII)	Andhra Pradesh State board	90.3%	2005-07
High School (X)	Andhra Pradesh State board	92.7%	2003-05