

# Dr. Shravan Vudumu, Ph.D.

Technical Manager - Controls and Systems Engineering | Data Analytics, Machine Learning - Georgia Tech

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## SUMMARY

Highly motivated and results-oriented academic with a Ph.D. in Mechanical Engineering, complemented by M.S. degrees in Management and Data Analytics. Possessing over fourteen years of experience in engineering leadership, including the development of model-based control algorithms for complex systems and mentoring engineers in data analysis and optimization. Expertise in creating machine learning algorithms for business analytics applications. Seeking to share knowledge by teaching Python/R programming, data science, machine learning and business analytics courses part-time as teaching assistant for graduate students.

## EDUCATION

### Georgia Institute of Technology, USA

*Master of Science in Data Analytics*

- Specialization: Business Data Analytics, Machine Learning

**GPA: 3.7/4.0**

Aug 2023 - July 2025

### University of Illinois, Urbana - Champaign, USA

*Master of Science in Management*

**GPA: 4.0/4.0**

Aug 2022 - July 2023

### Missouri University of Science and Technology, USA

*Ph.D. Mechanical Engineering*

**GPA: 4.0/4.0**

Aug 2006 - July 2010

### Indian Institute of Technology - Madras, India

*M.Tech and B.Tech Mechanical Engineering*

**GPA: 8.0/10.0**

Aug 2001 - May 2006

## WORK EXPERIENCE

### Cummins Inc., Columbus, Indiana, USA

- Controls, Software and Electronics Engineering - Technical Manager

Aug 2010 - Present

## TEACHING EXPERIENCE

- **Developed, taught and graded graduate engineering courses** while pursuing PhD degree at Missouri S&T.
- **Integrated simulations in engineering curriculum:** GM PACE (General Motors - Partners for Advancement of Collaborative Engineering Education) sponsored project to develop and integrate simulations in graduate courses.

## DATA ANALYTICS SKILLS

- **Data Analytics Skills:** wrangling, modeling, machine learning, statistical analysis, optimization, visualization
- **Programming/Software:** R, Python, Power BI, Tableau, SQL, D3 interactive visualization, Git, Excel, Arena

## DATA ANALYTICS PROJECTS

- Predictive modeling and anomaly detection of time series using machine learning. | *Python - Anomaly Detection*
- Data analytics of Divvy bikes, a ride sharing system in Chicago. | *R, Python -pandas, geopandas*
- Machine learning algorithms for evaluating credit applications. | *XGBoost, Logistic Regression*
- Stocks and ETFs - statistical analysis and confidence intervals. | *Python - Yahoo finance API*
- Shortest path evaluations in road networks. Ingredient swap recommendations. | *SQL, Python, RegEx*
- Predicting house prices with machine learning. Time series analysis of inflation. | *Python - pandas, numpy*
- Calorie & budget conscious diet planning. Optimizing airline network & schedules. | *Python - PuLP, Optimization*
- Non-homogeneous Poisson process simulation of call center. Inventory simulations. | *Arena - statistical analysis*
- Data-driven exploration of superstore sales to uncover insights and forecast trends. | *Python - prophet, Tableau*
- Interactive Data Visualizations - mouseover and mouseout event handling. | *Data Viz.: D3, Python - flask*
- Predicting cognitive decline - integrating machine learning with risk visualization. | *XGBoost, TabPy, Tableau*

## CERTIFICATIONS, HONORS AND ACHIEVEMENTS

- As doctoral researcher, **published six international journal and conference papers.**
- Recipient of the prestigious US Department of Transportation's (Research and Innovative Technology Administration) **National University Transportation Center (NUTC) assistantship.**
- Merit scholarship and tuition waiver (2001-06). Member of ASME, SAE, AIAA, IJHE (2009-10).
- Earned **Six Sigma Green Belt** certification (2015). Completed **Systems Engineering** certification.