# NIDHI MENON

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## WORK EXPERIENCE

**Autodesk Inc,** *San Francisco, CA*

**Principal Machine Learning Engineer**                                                               *May 2022 - Apr 2025*

- Led 12-person cross-functional team through 0-to-1 architecture, development, and production launch of a personalized recommendation system for Autodesk App Store, driving 13% lift in app downloads across ~708K DAU with <100ms latency
  - Owned end-to-end system architecture for real-time ML inference at scale using Wide & Deep Networks with online feature serving, achieving <50ms p95 inference latency
  - Built feature store and data migration pipeline, reducing model training time by 40% and infrastructure costs by 25%
  - Mentored an intern in building functional prototype, guiding algorithm selection and system design decisions
- Led 0-to-1 design and implementation of ML-powered customer support insights platform, proactively surfacing product issues and enabling natural-language querying across 10,000+ quarterly tickets
  - Piloted BERT-based topic modeling framework in partnership with Autodesk Platform Services, surfacing 7 critical product issues leading to targeted fixes that reduced quarterly support volume by 10.7%
  - Evolved system from topic-based categorization to a RAG architecture, leveraging vector embeddings, FAISS, and cross-encoder re-ranking to surface contextually relevant insights beyond predefined topics
  - Designed a modular, extensible platform with configurable data connectors, enabling 3 additional product teams to adopt automated ticket analysis with minimal engineering overhead
- Served as organizational Privacy Champion, conducting privacy impact assessments across ML initiatives, enforcing data retention and ethics standards, training teams on privacy best practices, and partnering with legal on open-source compliance

**Senior Machine Learning Engineer**                                                               *Jan 2019 - Apr 2022*

- Engineered high-performance data compression framework reducing API logs (generated at a rate of ~1.4GB/hr) by 99.8%, enabling scalable pipelines for:
  - Anomaly detection to reduce API usage abuse and obtain granular customer behavior insights
  - Driving strategic decisions on API monetization, product subscriptions, and customer retention
- Contributed machine learning expertise to two pro bono projects for Autodesk Foundation, supporting initiatives for Hope Street Group and Yuno Technologies with predictive modeling and analytics
- Championed Data-as-a-Service (DaaS) adoption across engineering teams, increasing Blameless Postmortem completion from 20% to 75%, fostering incident learning with self-service analytics

**Data Science Intern**                                                               *May 2018 - Aug 2018*

- Developed XGBoost models to forecast team velocity and sprint burn rates, enabling proactive agile coaching interventions, resulting in a 12.3% increase in organizational burn rate
- Built an interactive visualization tool to analyze GitHub data, integrating APIs for real-time tracking of employee contributions to Autodesk's open-source projects, fostering developer community engagement

## RESEARCH EXPERIENCE

**Georgia Institute of Technology - *Graduate Student Researcher*,** *Atlanta, GA*                *Jan 2018 - Dec 2018*

- Optimized and performed comparative study of deep CNN architectures (VGG-16/19, ResNet50, InceptionResNetV2) for hybrid image classification, achieving 94% accuracy through systematic hyperparameter tuning
- Conducted comparative analysis of model predictions to draw parallels between neural network features and human cognitive processes, contributing to interdisciplinary research in AI and neuroscience

**University of Mumbai - *Undergraduate Researcher*,** *Mumbai, India*                *Jul 2016 - May 2017*

- **Publication: Floor Layout Planning using Artificial Intelligence Technique**
  Vol. 6, Issue 4, International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
- Prototyped Genetic Algorithm software for furniture placement optimization, achieving 90% accuracy in space utilization by processing 20,000 positional chromosome configurations across 5 generations

## EDUCATION

**Georgia Institute of Technology,** *Atlanta, GA*                                                      *Aug 2017 - Dec 2018*
Master of Science in Computer Science (Specialization: Machine Learning)

**University of Mumbai,** *Mumbai, India*                                                      *Aug 2013 - May 2017*
Bachelor of Engineering in Computer Engineering

**Stanford University,** *Palo Alto, CA*                                                      *May 2022 - Aug 2022*
Artificial Intelligence Professional Program - Natural Language Processing with Deep Learning

## TECHNICAL SKILLS

***Languages*:** Python, Java, C, MATLAB, R

***Data*:** SQL, DBT, Snowflake, DynamoDB, Redshift, Hadoop, Hive

***Frameworks*:** Flask, PyTorch, TensorFlow

***Tools*:** AWS, Airflow, Git, Docker, PowerBI, Looker