

# MARYAM GHASERI

## Summary

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Curious and results-oriented data scientist with a background in mathematics and statistics as well as a strong business acumen to complement technical skills.

## Data Science Projects

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### AI Generated Image to Audio Captions

- Analyzed images using CNN and did feature extraction using transfer learning
- Analyzed image descriptions using an LSTM model
- Created a neural network model using images and text data that can generate captions for new images
- Converted captions to speech using WaveNet

### Topic Modeling and Recommendation System

- Analyzed Amazon reviews for headphones using Natural Language Processing (NLP) and extracted topical features using Non-negative Matrix Factorization and TF-IDF
- Constructed a content-based recommender system using cosine similarity, to help costumers find the desired product based on other customers' reviews
- Performed sentiment analysis to understand customers' attitude, sentiments, and emotions
- Performed exploratory data analysis (EDA) on reviews

### Predicting A Startups' Success

- Used Crunchbase company fundings dataset to predict the probability of success of a startup (IPO or acquisition), using supervised classification models such as Logistic Regression, Random Forest, and XGBoost
- Created a Flask app to predict the probability of success of a company based on it's funding information, location, and industry

### Predicting Property Prices in Seattle

- Scraped data for sold properties in Seattle from Trulia, using BeautifulSoup and Selenium
- Collected demographics data such as average income, average education, and racial breakout per zip code and added to the housing data
- Predicted property prices using feature engineering and models such as Linear Regression and Polynomial Regression

## Experience

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### Metis Data Scientist

New York, NY  
June 2020 to Current

- Completed a 12-week immersive data science bootcamp with a focus on Python programming, data engineering, machine learning, and communication
- Designed and built end-to-end projects to utilize data science in consumer market scenarios; see project section for details

### PwC Actuarial Manager

New York, NY  
Apr. 2013 to Current

- Consult with employers on solutions for their pension and health & welfare plans, including actuarial valuations, accounting, funding, plan design, and plan administration
- Consult with clients to mitigate the risks associated with their defined benefit pension plans, and advise on solutions such as plan termination, annuity placements, and moving to defined contribution plans
- Perform M&A due diligence for pensions, retirement, and health & welfare plans
- Lead and manage multiple project teams
- Mentor Associates and Senior Associates and provide official feedback, semiannually

### University of Illinois at Urbana-Champaign Teaching Assistant

Urbana Champaign, IL  
Jan. 2012 to Dec. 2012

- Instructed three sections totaling 103 students in advanced actuarial statistics courses
- Responded to students' questions in class and via email
- Completed and evaluated semimonthly quizzes

## Contact

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## Skills

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### MACHINE LEARNING

Regression  
Classification  
Natural Language Processing  
Deep Learning  
Unsupervised Learning  
Dimensionality Reduction  
Image Classification  
Deep Learning

### TOOLS AND LIBRARIES

Python  
SQL  
SAS  
Scikit-learn  
NLTK  
Pandas  
Numpy  
Seaborn  
Keras  
HTML  
Tableau  
Alteryx

### DATA MANAGEMENT / CLOUD TOOLS

Google Cloud  
Git / Github  
Postgres

## Education

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### University of Illinois at Urbana-Champaign

M.S. in Actuarial Science 2012

### Shahid Beheshti University

B.S. in Applied Mathematics 2008

## Certifications

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Associate of Society of Actuaries

Member of American Academy of Actuaries

SAS Base Programmer certificate exam