
SUMMARY

Research • Data Science • Kaggle

- **An organized, energetic and motivated data science enthusiast** with 2 years of experience in data exploration, data analysis and implementing machine learning models.
-

EXPERIENCE

The University of Utah

Jan 2017 – Aug 2019

SOARlab is a research lab with focus on designing highly automatic and scalable analysis techniques for software.

Research Associate

Perform data analysis, feature engineering and build machine learning models to reduce Type II errors and TIMEOUT for software verification tool, SMACK on SV-COMP benchmarks.

- **Detect optimal configuration subspace for SMACK** by building ETL data pipeline based on SV-COMP benchmark categories.
- **Classification model with 98.3% accuracy** correctly classifying input C programs into SV-COMP benchmark categories.
- **Speedup of 3x** by applying dimensionality reduction techniques.

The University of Utah

2014 - 2016

Lead TA

- TA for Discrete Structures, Advanced Algorithms, Data Mining.
-

TECHNICAL SKILLS

- Programming: **Python, SQL** (MySQL, SQLite 3, PostgreSQL), R, C++, HTML, CSS.
 - Tools and packages: Jupyter Notebook, **Pandas, sklearn, Keras**, TensorFlow, OpenCV, matplotlib, NLTK, **GitHub, Tableau**, Docker, Google Cloud Platform, AWS SageMaker.
 - Data Science: Machine Learning, **Data Analysis, Computer Vision**, Anomaly detection, Recommender Systems, ETL data pipeline, Sequence Models, **Transfer Learning**.
-

PAPERS

- SMACK Software Verifier and Verification Toolchain | Z. Rakamaric et.al
 - Automated prediction and tuning for SV-COMP | A. Agrawal, Z. Rakamaric (working)
-

EDUCATION

- **MS Computer Science**

The University of Utah, Salt Lake City, USA

Dec 2016

PROJECTS

- Speed Challenge: Implemented a deep Convolutional Recurrent Neural Network to **predict the speed of a car** from a video input file using Keras and OpenCV | *comma.ai*
- Google Landmark Detection: Implemented a **binary classification** model to predict if image contains landmark using by **injecting and resampling** non-landmark data samples in training set. Used VGG-19 based transfer learning method to classify different landmarks using GCP, Keras, OpenCV, NumPy, sklearn | *Kaggle competition*