Anand Ramanathan

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Machine Learning Engineer/Applied Data Scientist - structured ML and deep learning, python and R, recent focus on AutoML (automated machine learning) on Azure, previous focus on 3d semantic scene segmentation.
Shipped several software products in enterprise, consumer, web, mobile and developer domains, as engineer/developer, independent entrepreneur and TPM.
Experience at large software companies like Microsoft and Amazon, as well as small startups, and as an indie entrepreneur.

Skills

ML/AI: AutoML, Benchmarking ML products, Rapid prototyping/experimentation/learning/ research/visualization, python, jupyter notebooks, keras, tensorflow, scikit-learn, numpy, pandas, matplotlib, scipy, statsmodels, seaborn, R, tidyverse, Machine Learning, Deep Learning, Statistical Learning, AI, Computer Vision, heuristic based algorithms, xgboost, lightgbm, decision trees, SVM, PCA, SVD, ensembles, extra trees, bagging, regression, classification, naïve bayes, knn, hyperparameter tuning with CV (grid, randomized, custom), Dense networks, Convnets, CNN, RNN, LSTM, GRU, time series forecasting

Programming, Web/mobile/data: Kusto, Power BI, Django Rest framework, Angular, Typescript, Ruby on Rails, heroku, PostgreSQL, SQLite, bootstrap, .NET, C#, WCF, REST, C++, MFC, COM, ATL, BizTalk Server, ASP .NET, REST API, XCode, Objective-C, Corona SDK, Lua, Unity 3d

LIDAR: PDAL, lastools, laspy, 3d point cloud sampling, local structure feature engineering, Displaz, DTM, point cloud classification, PointNet, Noise filtering, DBCONS, OPTICS

Experience

Data Scientist, Azure Automated Machine Learning, Microsoft., Bellevue, WA, December 2018-present

Machine Learning:

Found ways to improve our AutoML product by identifying models that perform better.
Performed end to end time series forecasting for a large enterprise customer.
Analyzed competitor feature importances to prioritize our internal featurizers.
Created an end to end AutoML framework as part of hackathon week.

Competitive analysis:

Proved our product to be comparable with a competitor by reverse engineering their non-standard accuracy calculation for imbalanced multiclass classification.
Created better compete comparison graphs to reduce error bar overlap across platforms.

Engineering:

Built a generic python environment versioning framework that allows inferencing in same environment as model was trained. Solved versioning issue for a key first party customer.

Datasets and benchmarking:

Improved dataset onboarding experience by building a tool that fixed several issues. Team (others and I) used tool to onboard 20 datasets rapidly.
Identified gaps in benchmarking dataset coverage by creating a framework to extract dataset metadata, running it, and examining coverage on various metadata dimensions. Found several sources of datasets and onboarded datasets to cover gaps in our benchmarking corpus.
Created a tool to identify issues in dataset quality – leakage, duplicate rows, etc. – and used it to fix issues in datasets.
Automated running competitor product on benchmarking platforms.
Created a lightweight benchmarking alternative to provision infrastructure, train and score datasets against our product. Used it to benchmark new DNN forecasting feature.
Found insights to improve benchmarking by comparing production logs with benchmarking logs.

Other:

Documented everything that I found lacking in internal documentation - DRI onboarding, running benchmarks on Windows.

Senior Software Engineer, Divensi Inc., Redmond, WA, April 2017-August 2018

Azimetry ML: LIDAR 3D point cloud classification.
Structured ML, Deep Learning, research.
Independently built lightweight custom data pipeline framework.

Airin: AI based decision making collaborative web application
Built entire v1 web application.
Hired an engineering team for the client and transitioned the v1 product.
Client CEO extended an offer for me to take CTO position in airin to my company's CEO.

Founder/Engineer, Meon LLC and Thouwords LLC, Redmond and Bangalore, 2009-2017

- Envisioned, built and launched meon, a hosted web platform to create web and mobile apps easily, with no programming needed. Built and released over 80 apps on the platform.

- Envisioned, built and launched over 6 different mobile educational games to iOS/Android, with over 30k downloads.
- Rich multimedia web experiences using Semantic analysis (AlchemyAPI) and Web APIs like Amazon API/Wikipedia API/Dbpedia/YouTube API.

Senior Technical Program Manager, Microsoft, Redmond - 7 years

BizTalk Server, Outlook Programmability, CSF, .NET Framework REST.

Technical Program/Product Manager, Amazon, Seattle - 1 year

Distributed systems engineering - messaging, workflow and distributed cache

Consultant Software Design Engineer and Lead, Aditi/Microsoft, Redmond - 1 year

Consultant developer at Microsoft in Visual Studio internal tools, porting FrontPage Server Extensions to C#, BizTalk Server

Education

Bachelor of Engineering from IIT Roorkee

Certification

- [Coursera Deep learning specialization](#) (2018)
- [Statistical Learning with R (Stanford Online)](#) – Distinction (2016)
- [Python and R for Data Science](#) (2016)
- [Data Visualization Fundamentals](#) (2016)
- [Introduction to Mathematical Thinking](#) (Coursera/Stanford) (2015)
- Human Computer Interaction (Coursera/Stanford) (2013) – Distinction

Other

- [Meon](#), [sumurai](#), [exy](#), [Black box](#)
- https://www.linkedin.com/in/anandrc
- https://github.com/rcanand
- https://stackoverflow.com/users/456735/anand