Baran Akyol

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EXPERIENCE

Columbia Astrophysics Lab
New York, NY
Software Engineer
May 2017-Jan 2018

- Designed and developed the Columbia University Astrophysics Lab Database
- Wrote a python package that wraps database operations, provides extended functionality and ease of use for star clusters; assists data exploration using dynamic javascript graphs and machine learning algorithms
- Full stack development and deployment of all the functionality of the package online using NodeJS for the back-end and React JS for the front-end

Global Umpire
New York, NY
Data Science Intern
Summer 2017

- Developed a probabilistic Natural Language Generation system for creating a customized twelve page fundamental analysis report
- Designed a framework that supported the NLG system by extracting qualitative and qualitative information from raw data using machine learning and hard coded decision tree models as well as basic statistical tools
- Designed and constructed the front-end for the report and connected it to the NLG system and also contributed to database api and data pipeline

LALA Education Technologies
Istanbul, Turkey
Partner
Sep 2014- Jul 2016

- Devised a method using OCR for fast and accurate transfer of data from hard-cover books to a digital format
- Set E-Trade site up, prepared a product list and negotiated with distribution channels, managed supply chain operations, marketing campaigns & customer relations
- Analyzed Sales & Marketing data and saved 30% on ad revenue while retaining same percentage of returns

Volvo Group Trucks
Istanbul, Turkey
Intern
Summer 2015

- Developed Excel Macros in VBA for the team and decreased report preparation time drastically
- Prepared Sales & Financial Reports of distribution channels for business control team

PROJECTS

Predicting S& P 500 daily stock prices
New York, NY
Columbia University
Fall 2016

- Fitted ARMA(p,q)-GARCH (1,1), ,LOESS (Kernel Regression) and $1 \leq p \leq 5$ (hidden) and $1 \leq q \leq 5$ layer Neural Networks to a rolling window of 497 to predict returns for 498-500th days.
- Compared the models using FMSE, cumulative returns and Sharpe Ratios. Fitted same models to High-Frequency (1-min) data.
- Calculated daily volatilities using Garman-Klass (OHLC) estimator.
- Did Principle component analysis and used a Conditional Value at Risk model for portfolio optimization.

EDUCATION

Columbia University
2016-2017
M.S. Data Science

Rice University
2013-2014
Exchange Program

Bogazici University
2011-2015
Economics & International Trade

COURSEWORK

Statistical Machine Learning | Deep Learning | Applied Machine Learning | Adv. Algorithms | Computer Networks | Time Series Modeling | Malware Analysis & Reverse Engineering | Natural Language Processing

SKILLS

PROGRAMMING LANGUAGES

Proficient: Python | R | SQL | ReactJS
Intermediate: VBA | C++ | NodeJS
Basic: Java | Solidity

OS & ASSEMBLY & SYSTEMS

Proficient: X86 Assembly-32 bit | UNIX | Linux (Ubuntu and Fedora) | AWS
Intermediate: Spark | Hadoop | Hive | i386 - Intel CPU Architecture | Map Reduce
Basic: Kali-Linux | Cuckoo Sandbox

SOFTWARE

Microsoft Office | IRAF | Wireshark | Netcat | VMWare | IBM SPSS

DESIGN

Adobe Photoshop, InDesign, Illustrator | LaTeX | SolidWorks 3D | HTML/CSS/BOOTSTRAP

PERSONAL

- **Proffessional Starcraft Gamer**
  Starcraft 2 Season 1 Master league first 8 Trophy
- **Mining bitcoin since 2016**
  Currently own 160 TH/s farm in Gaziantep
- **Speak Turkish and German**
- **Green card awardee for 2019**