Ashish Rana

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EXPERIENCE

GE Healthcare   *Data and Analytics Team, Bengaluru*
Data Engineering Specialist   *Aug 2019 - Present*

- **Modality outlier detection and Predictive maintenance**: Time Series data forecasting for unsupervised outlier analysis from machine sensor data. Second, predicting machine failures with Weibull Regression by estimating hazard functions. Both are targeted to provide better customer service & save additional resource expenditure.
- **Developing, testing and deploying ingestion procedures**: TeraByte scale data in AWS Redshift, conducting automated tested and automating procedure execution with step functions. Saving hours of manual testing efforts and two times recipient of *Impact Award* for excellent development efforts. In addition, gone through AWS Big Data and RedShift Data warehousing trainings.

American Express   *Next Generation Data Management Team, Bengaluru*
Data Engineering Intern   *Jan 2019 - Jul 2019*

- **Development of In-House Scalable Monitoring Tools**: Grafana based custom jsonnet dashboards with Elasticsearch & Prometheus datastore created & tested for 2000+ VM configurations.
- **Automation, Data Analysis and Administrative Scripts**: Reducing cluster post provisioning time by 50%, Couchbase VMs stats for alerts obtained, multiprocessing VM patching increasing performance upto 400% on avg.
- **Extra Initiatives**: Confluence scraper with CQL queries & NLP analytics developed to find helping experts in respective domains within organization. Planned and organized intern outings, birthdays & farewells.

GE Digital   *Product Lifecycle Management COE Team, Bengaluru*
Software Engineering Intern   *Jun 2018 - July 2018*

- **ReST Web-Services & SSO SAML Authentication**: Implemented ReST web-services from legacy SOAP codebase. Resolved logout and reauthentication issues in custom Enovia PLM codebase with 40K active users.
- **Static Tool Analysis**: Developed a case study of multiple open source tools on existing Enovia source code and scalable Solar based linting solution designed, github contributions to original tools also made.

EDUCATION

Thapar Institute of Engineering and Technology   Patiala, Punjab
Computer Engineering, **CGPA: 9.51**   *2015 – 2019*

Army Public School   Meerut Cantt, Uttar Pradesh : Jalandhar Cantt, Punjab
12th Percent: 91.00 , 10th Percent: 93.10   *2013 – 2014 : 2011 – 2012*

PUBLIC DEVELOPER CONTRIBUTIONS AND CODING EXPERIENCE

- **liveProject Creator, Manning Publications**: Currently designing reinforcement learning project which systematically prototypes navigation agents for OpenAI environments. *(Ongoing)*
- **Couchbase Connect 2020, Presentor, Automated Couchbase Monitoring**: Automated Couchbase monitoring with ReST HTTP server and orchestrated Prometheus & Grafana integrations as well. Presented a predictive use case with *fbprophet* and *PyOD* outlier analysis. *(Ongoing)*

- **COVID-19 Fast track submission, IEEE TNNLS**: Research paper under peer review on prognostic severity analysis with SSD networks on a annotated dataset COVID-19 CT-images dataset written with PGI, Chandigarh researchers. *(Ongoing)*
- **ICTAI 2019, CalcNet Paper Author**: Research paper published on natural numerical calculation with neural networks with mathematical function decomposition approach with collaborators from Aalto University, Finland.
- **Comparative case study, Computer vision networks**: Research paper in arxiv: 2004.06674 on regression based end-to-end cell counting with numerically biased concatenated layers achieving better accuracy than conventional FCRN & U-net CNN architectures.
- **Author: Hackernoon, TowardsDataScience & AnalyticsVidhya**: Published articles on Deep Learning, ML, AI and Reinforcement learning with 120K+ views and 400+ unique recommendations. Also, published the highest rated top weekly story on Hackernoon.
- **Machine Learning Hackathons**: In Top 5% solutions for ZS Data Science 2019 Challenge. In Top 15% solutions in Imarticus Car price prediction Challenge. & Top 11% Analytic Vidhya's India 2019 Hackathon.

- **CheckerFramework and Aimacode, Relevant Contributor**: 2500+ lines of code committed, for jdk annotations in *typetools*. Created own prototype of type system for determinism in Java code. In Aimacode, contribution to AI pseudocode for multiple algorithms.
- **Global Rank: 210 Div 2, October Mega Cook-Off 2018**: On Codechef coding platform for username rana_160796.

Selected Projects

- **Single shot detector (SSD) and counter**: Implementing fairly good SSD with 240k parameters only on grocery object detection dataset and achieving comparable performance to 24 million parameter SSD300 model.
- **Clustering Based Recommendation System**: Based on course data from Pluralsight a clustering and LDA based recommendation system that uses elbow method for finding approximate number of clusters to minimize SSE.
- **OCR Denoiser for Digital PDFs**: Multi-processing design with recursive Levenshtein spell checker, numerical error remover and currency symbol handler. Holds higher accuracy than Tesseract & extendable ever improving design.

Skills

- Cloud computing, Data warehousing, Deep Learning, Machine Learning, Natural Language Processing, Data analytics and AI Search Methods, Data Mining , Image Processing, Advanced Data Structure and Algorithms, Software Engineering, Information Management.

Co-curriculars

- **OWASP Chapter Design Head:** : produced professional designs with Photoshop suite.
- **MARS(*Robotics Society*):** Core Team: Maze-solvers Arduino & advanced C++ workshops conducted.
- **Scimatics Mentor, Design Head:** : Java, C++, Arduino, graphic design workshops conducted.
- **Voluntary Experience:** : Destitute home & Orphanage visits, Blood donor & Charity participation.
- **Academics Gold Medalist:**: Social Network(*NPTEL-Course*), First Year(*Branch*), High School IMO