

# Ashish Rana

medium.com/@ashishrana160796

LinkedIn : linkedin.com/in/ashishrana160796

Email : ashishrana160796@gmail.com

Mobile : +91-94573-95571

Github : github.com/ashishrana160796

## EXPERIENCE

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- GE Healthcare** *Data and Analytics Team, Bengaluru*  
*Data Engineering Specialist* *Aug 2019 - Present*
  - Modality outlier detection & 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.
  - Architecture Designing, Developing, testing & deploying ingestion procedures:** Ingesting TeraByte scale data in AWS Redshift w/ PL/pgSQL & Elasticsearch w/ Spark Python scripts, automated testing & procedure execution w/ step functions. Saving hours of manual testing efforts & two times recipient of *Impact Award* for excellent development efforts. In addition, gone through several AWS big 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

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- 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*

## ADDITIONAL CODING EXPERIENCE

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- Building Safer Autonomous Agents, arxiv:2103.10245:** Trained agents w/ collision simulation knowledge from driving scenarios
- liveProject Creator, Manning Publications:** Designed reinforcement learning project which systematically prototypes driving agents for OpenAI environments. *(Ongoing)*
- Couchbase Connect 2020, Presenter, 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:** Natural numerical calculation approximations using MLPs w/ mathematical function decomposition approach.
- Cell counting with FCRN & U-net variants, arxiv: 2004.06674:** Regression based end-to-end cell counting with numerically biased residual NALU/NAC layers for achieving better accuracy.
- Author: Hackernoon, TowardsDataScience & AnalyticsVidhya:** Published articles on Deep Learning, ML, AI and Reinforcement learning with 120K+ views and 400+ unique recommendations, highest rated top weekly story on Hackernoon.

## SELECTED PROJECTS

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- Single shot detector (SSD) & Counter:** Implementing compact SSD with 240K parameters only on grocery object detection dataset & achieved comparable performance 24M parameter SSD300 model w/ data augmentation, hyperparameter tuning.
- Clustering Based Recommendation System:** Pluralsight course description data K-means clustering for SSE minimization with elbow method & LDA based recommendation system for course recommendations.
- OCR Denoiser for Digital PDFs:** Multi-processing design with recursive Levenshtein spell checker, numerical error remover and currency symbol handler w/ extendable design.