ML Projects for Career transition

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Agenda:

→ Take each role & cover a few relevant projects for each role.

→ Disclaimer: I am NOT an expert in all the domains I am about to discuss.

Please leverage your expertise to pick the most relevant projects.

Role: freshers

→ DO NOT do non-off-line-mill projects (Spam, Intrusion ...)

→ Pickup exciting & innovative projects

e.g: automated attendance system. (1)

searchable audio lectures (+alexa) (2)

→ Take time to collect data for your project.

e.g: self-driving-car for Indian Roads. (3)

Role: freshers

→ CV, text, Tabular, audio (variance)

(4) Examination Proctoring/Invigilation using webcam

(5) Predict if a question appears in an exam.

(6) Group relevant subtopics from different text books.

Role: Software engineers

→ domain : Healthcare, Pharma, Banking & FS, e-commerce, Manufacturing, ...

→ Python / R.

→ find a problem relevant to your role / team / org / company / client

→ DO NOT solve generic stuff.

→ Pick projects where you can obtain data (internal / external)

Factors

1. Innovative & Relevant
2. Rigor & Thoroughness
3. Documentation & Code.

Domain - independent & work-place related

1. Meeting minutes using audio & Audio-Search
2. Meeting-scheduler https://x.ai/how-it-works/
3. HR: performance rating (emails; code; calender)
4. Search (code/ documentation / wikis)
5. Automated access-granting (Amazon Kaggle)

6. Code-quality valer (Java | C | C++ | ----)

7. while-board to digital (searchable)

8. Employee - Stress - measurement

9. Audio - feedback (cafeteria, services ----)

Domain-specific + External-data (Kaggle)

https://www.kaggle.com/tags/healthcare (Google: Kaggle healthcare)

https://www.kaggle.com/tags/banking

https://www.kaggle.com/c/prudential-life-insurance-assessment (Google: Kaggle Insurance)

http://analyticscosm.com/8-amazing-banking-and-finance-challenges-in-kaggle/

https://www.kaggle.com/c/mercedes-benz-greener-manufacturing

https://www.kaggle.com/c/bosch-production-line-performance

Role: Testing (Manual & Automation)

1. Group similar bugs/tickets (text, resolution time, ...)
2. Data analysis to understand why some tickets take more time.
3. Best person/team to assign a ticket
4. Predict time to resolve a bug.
5. Visual anamolies/outliers in UI testing.

6. Audio-search of bugs via Alexa/Assistant

7. Dalā - viz of bugs.

8. Selenium: Scrape dalā + build models (Amazon Fashion Search)

9. https://www.functionize.com/

https://towardsdatascience.com/machine-learning-for-detecting-code-bugs-a79f37f144b7

https://github.com/michaelpradel/DeepBugs

Database - engineers / Admins

1. Natural - language to SQL

   https://datascience.stackexchange.com/questions/31617/natural-language-to-sql-query

2. Log-mining to find inefficient queries & suggest similar + efficient queries.
   (is text / SQL)

3. end-end Q&A system on relational / non-relational data.

Web-developers & App-developers

front-end : Selenium fw scrapping (+JS+CSS) ①

↳ Build a real-world web-app to better ② showcase your results

[Tensorflow.js] or [Tensorflow on Android/ios]

③ Captcha-cracker

4. dwell-time on webpages + viz

5. Automated Proctoring (webcam)

6. Online-Game-Playing

7. https://distill.pub/

https://distill.pub/2016/misread-tsne/

{ Interactive ML-tools/algos }

Mechanical - engineers

→ Condition-based - monitoring (Accelerometers, Ultrasound, Visual)

→ Predict machine failure

https://www.kaggle.com/c/machine-failure-prediction/overview

→ Academic Research.

https://www.meche.engineering.cmu.edu/research/machine-learning.html