Automatic Curriculum Vitae using Machine learning and Artificial Intelligence

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Abstract—Machine learning and artificial intelligence could be the next innovative way to build curriculum vitae. Traditional way of building curriculum vitae needs extra efforts and to portrait best results. Using machine learning and artificial intelligence to records real time events in life and human voice interaction using machine learning and artificial intelligence would be revolutionary step. It provides an ability to handicapped people to build their curriculum vitae, even to blind peoples around the world can build their curriculum vitae using voice input. QR code generation also perform for short duration sharing for temporary purpose. End user encryptions also lead to more security and privacy to user.

Keywords— Machine learning, Artificial Intelligence, Quick Response Code (QR Code), Curriculum Vitae, End Encryption

INTRODUCTION

Today's world is so noisy that we rarely get a chance to focus on ourselves. Many social networking sites are being develop to connect the world but individually we are disconnecting with our self. Considering the fact that automation in every field is yielding more outcomes and attract more people and make ease of use of any product. So we stitching project with end to end encrypted automations and using highly advance technology like machine learning and Artificial intelligence. Automatic curriculum vitae is perhaps only project which let encourage individual focus on their self and let them updated with their goals.

Every platform around the world is aiming to gain million and billions of people to come together and invest their time on others life or roam around the profiles of others. Here we are having completely different approach, we are thinking totally opposite to other social networking and other web applications. We are the first on the planet to encourage people to track their life's milestone automatically without any inputs and they can interact with it using not only their phones and laptops but we giving them opportunity to connect with platform using their voice as well. This will be give encouragement to the people who are handicapped and may some of them couldn't even see. We really focused on such issues where individuals mind is deviating continuously on so many things and it's become harder to get rid of this habit. If we fix these issue and let them focus on what them actually want to do then it's truly worthwhile. Auto CV is not just curriculum vitae builder but it keep track of what's happening in self-life and stores the milestone that individual achieved so far and moreover it encourage individual to push their limits by comparing nearby friends achievements and awards or many other parameters. Using

machine learning and artificial intelligence the application goes more powerful and come to know how exactly you sound and what you loved to do, what you want to be, so it continuously push you and encourage you to get closer to your goals as you set earlier. As it also available over on voice commands to can be use as conversation application. Also features like sound notification in your car, watch, mobile phone, TV etc. make it extraordinary and rare chance to miss any important notification. This project shifting the paradigm of regular social networking sites and resume builders and changing the face of resume and make it universally unique and identical.

Revolution in resume building

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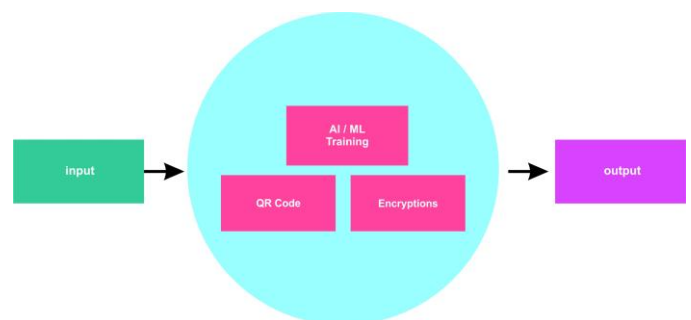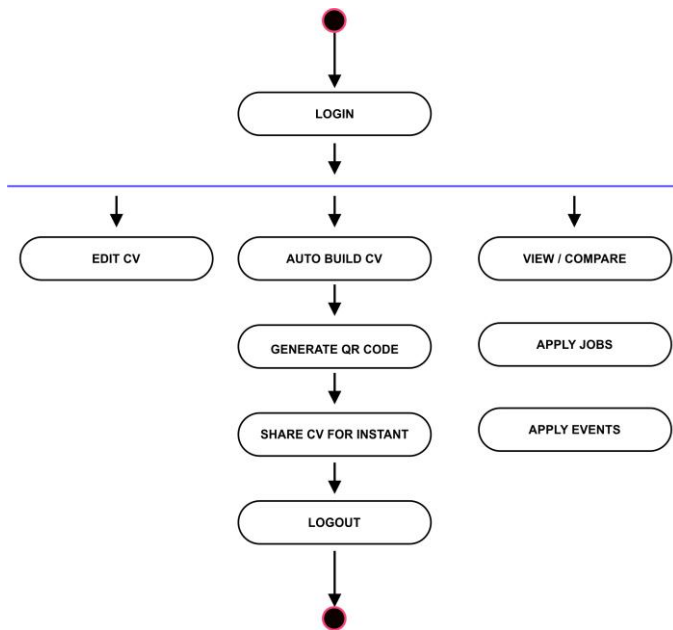

Fig. 1 General Working overview

Fig. 2 Functional overview

MATH

Linear Algebra

Linear Algebra plays a super heavy role in understanding Optimization methods used for Machine Learning. Lets take an example to see how. Many problems in machine learning can be expressed as a simple least-squares optimization problem. What is interesting is every least-squares problem can be turned into a Quadratic Program (ie, an optimization problem involving quadratic function of the variables). This is illustrated below 1 :

$$f(x) = \frac{1}{2} \|\mathbf{Q}x - c\|^2$$
$$= \frac{1}{2}(\mathbf{Q}x - c)^T(\mathbf{Q}x - c)$$
$$= \frac{1}{2}(x^T\mathbf{Q}^T\mathbf{Q}x - x^T\mathbf{Q}^Tc - c^T\mathbf{Q}x + c^Tc)$$

Since $c^T c$ is a fixed quantity (constant), it is sufficient to solve the Quadratic Programming problem:

$$f(x) = \frac{1}{2}x^T\mathbf{A}x + q^Tx$$

Probability Theory & Statistics

Probability Theory: Counting and Combinatorial methods, Bayes' Theorem, Random Variables, Expection, Variance, Conditional and Joint Distributions, Moment Generating Functions, Exponential Family of Distributions • Statistics: Maximum Likelihood Estimation, MAP, Prior and Posterior, Sampling methods, Gibbs As you would expect, this is the single-most important field which also conveys the essence of machine learning, namely - estimating the parameters of

the data-generating process. Several machine learning methods have probabilistic interpretations and its common to hear the words frequentist and Bayesian ways of doing things. One way to look at the difference between them is that the frequentist methods are concerned with estimating the parameters of their model that have the highest chance of generating the "current data"; this is called the Maximum Likelihood Estimation (MLE) and written as:

argmax θ log L(θ) = argmax θ log P(Data Parameters)

MLE has the tendency to overfit (generalize poorly on unseen data) and hence the Bayesian approach proposes incorporating historical evidence (based on "past data") into the current model. This is called the prior. The task 3 of estimation then boils down to using Bayes' rule as below:

$$P(Parameters|Data) = \frac{P(Data|Parameters)P(Parameters)}{P(Data)}$$

This can be equivalently written as :

$$Posterior = \frac{Likelihood \times Prior}{NormalizingConstant}$$

Posterior gives us a probability distribution over the parameters and this is used in various ways to make predictions on the new data. As is evident by now, random variables play a huge part in estimation and we often deal with independence assumptions between them, work with their expected values and variances. It is also important to know the functional forms of some key probability distributions, for instance the most popularly used Gaussian Distribution (or normal distribution) $\sim N(\mu, \sigma^2)$, which (in its univariate form) can be expressed as:

$$\frac{1}{\sigma\sqrt{2\pi}} \exp\left\{-\frac{(x-\mu)^2}{2\sigma^2}\right\}$$

Methods of Sampling play an important role in optimization algorithms. Often the gradient (generalization of the derivative - this has been described in a bit more detail further down below) needs to be calculated over the entire data set and this is very expensive to compute in every iteration. To avoid this, algorithms like Stochastic Gradient Descent (SGD) randomly sample a data point and update its gradient alone, this makes the algorithm independent of the number of data points which means it will scale well. But, now we only selected specific data points; so our method has lot of variance. How can we reduce this and make sure randomly selecting one point in each iteration will in the long run mimic the same behavior that we would have got if we had selected all the data points and computed the exact gradient? This is where techniques of designing unbiased sampling mechanisms come up.

• **Input:** Files, reviews and ratings

• **Output:** recommendation based on algorithmic flow.

Advantages

- Build curriculum vitae with new experience of smart notification while no need to add events manually.

- Control actions over voice command using natural languages

- No need to use screen devices as we can use it through google voice enable devices.

- Make one standard of curriculum vitae over the world

- Easy to share for temporary time or one can set manual time.

- End to end encryption solve the privacy problems

- End to end authentication for prohibiting fake account creations

CONCLUSION

Hence auto CV is the best way for making CV's more efficient and more reliable. As It is totally based on authentication system where each event is verified by the respected organizations / company / school /college etc. It uses cloud server systems for creating automation in real time. Automation introduced in Auto CV reduces time consumption required for making CV. This perhaps the most unique way to build your best curriculum vitae.

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