目录

个人陈述

敬爱的面试官，您好：

　　我一直以来的理想就是做出对我们的生活做出一点点改变的软件。从起初在大学生技术创新创业比赛获得第一名和近年来在工作中获得肯定，随着自己越做越了解，我更加坚信技术改变生活。图片处理和自然语言处理离不开生活的角角落落。这片领域还有许多提升空间，比如扫地机器人，许多可以避开障碍，规划路线，但是不能识别物体做决策，做出识别语音指示。随着人们对生活要求越来越高，一款能够识别菜中有哪些材料和营养分析的软件很重要，比如拍照就能知道，高血压孕妇不能吃什么，推荐吃什么。

　　我是一名资深程序员，偏前端。2017 年在埃森哲的创新中心工作，三楼是做 prototype 的程序员，四楼是 data scientist. 我在三楼工作，经常与四楼的科学家合作和学习，并非常羡慕他们创造性的工作。我参与的第一个是医疗保险项目，改善人们医疗申诉的方法。这个项目内容是使用 NLP 去处理 medical chart，并通过交互式 UI 与客户交互。我做的是 UI medical chart review board 和 UI dashboard 的工作。

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之后在 Accenture hathon coding 比赛中，我和同事 Mohammad Karzand 用了一天的时间，applied machine learning-text analysis 做了网站内容的测评插件，给电子文档的可靠性进行打分，基于 domain,author-authentication 和 summary 和是否有多媒体，引用来判断文本是否可靠，并给文本分类，判断文本是否包含 racism 以及是 porn。我参与做了网页插件。后来这个项目申请了专利。

https://patentscope2.wipo.int/search/en/detail.jsf?docId=US243320694&tab=PCT CLAIMS#CLM-00002， 这是我的代码 https://github.com/lvfe/Aletheia-frontend

在埃森哲之前，2016 年我第一份工作在 inflight dublin，独立完成了做了基于 twitter 分析客户对飞机公司满意与否的语言分析和情感分析，这个系统用到了实时数据存入分布式数据库，基于文字库获取客户态度，以及 d3.js 数据可视化。有许多值得优化的地方。

2015 我的硕士专业是网络与分布式系统。而我们的课后作业远远大于上课的内容，老师会让我们一节课讨论一个校园应该部署多少分布式服务器而达到平衡，快速和容错，这是没有标准答案的，但是让我们知道什么是性能分析，什么叫中间件。设计一个 p2p 聊天室，给我们 10 偏论文去研究一个没学过的课题。这是一段有趣的经历。我曾经在爱尔兰的大学生创业比赛中脱颖而出，创业的想法叫做 soosokan, location-based items search systems。比如附近哪里的饮用水或加油站。

我的毕业论文是 a personalized ontology and rule-based approach to manage message overflow,在这个过程中，我每周与论文知道老师学到了很多，使用了 standford 的软件，做语义和 rule 语言结合提升效率。其中一个 case 就是减轻手机负载，在一个智能教学楼模型里。

我觉得我有这个资质完成博士阶段的学习。我的成绩在专业是第二名，专业成绩第一，尤其是与数学相关的课程，微积分 93 和 90，线性代数 97。我在大一就参加数学建模竞赛

并获奖。大二就代表学校参加数学建模夏令营。大三去瑞典做交换生，大四的时候我的毕业设计是东华大学优秀毕业设计"校友会在线办公系统"，本专业唯一。我在本科参与数学建模和上过人工智能的课程。已经使用了 matlab 中多元线性回归和神经网络做预测。

研究计划

一．文本分析：

问题：基于文本分析和用户偏好，规则 rule-engine 对手机的推送信息过滤处理和选择性推送。包含：1.我们看到的电子信息包含不可靠信息，虚假信息，我们可以根据用户评论，作者，和内容摘要内容用词来判断信息是否可靠，进行推送；2 同时，用户有自己的爱好，把信息进行分类，定优先级后，推送给用户；3.对文本中图片进行解读和分类（如果可以）；4. 用户的爱好随时间改变，根据用户的阅读文章习惯，重新改变用户偏好

研究意义：对信息进行文本提取，比较 rule-based 信息处理和机器学习文本处理，提升模型准确率

预期成果：一款手机软件，可以获取邮件，短信，手机新闻，可以第一次输入用户的一段时间的偏好，对信息打可靠分和分类，根据时间推送。

二．图片分析

问题：根据食物和菜的图片，基于用户特征，分析营养，进行评分和推荐。特别是高血压和孕妇。根据用户喜好，进行优先级打分，推送给用户

研究意义：识别度低的图片识别。根据图片，来判断菜的营养。包含：食物经过蒸炸后的图片识别和根据食物颜色来判断营养元素综合判断。同时，用户的喜好也会变化，根据用户的选择，向用户做出推荐

预期成果：识别度低的图片可以用在监控仪上，和菜谱识别上。这个成果是一款手机软件，

通过拍菜的图片，帮助高血压用户和其他关注营养的用户，判断是否营养，做出推荐。

Personal Statement

To whom it may concerned:

It is a great pleasure to make some application which can bring life much convenience. From student life when I won first prize in CITI technology enterprise competition, to career life that some business software were designed and implemented, I find I like this area and gain much passion for new technology. At current stage, each life corner needs technology, especially image recognition and natural language processing. And there are plenty room for improvement. For example, Sweeping robots are able to do intelligent path planning, and avoid obstacles. However the cleaning robot cannot recognize particular objects and act based on human voice. For example, people, especially pregnant women and people who suffer high pressure, need software to analyse a dish photo, and obtain nutrient ratio in a dish.

I am a senior application developer. In 2017 I work for innovation hub in Accenture global solution limited. In Accenture, Application developers develop prototype at third floor while data scientists research at fourth floor. I always learn from data scientists and envy their creative work.My first project is medical insurance project to improve procedure to medical claims intelligently, which uses NLP to process medical charts and allows reviewing through an intuitive UI. My work is UI medical chart review board and UI dashboard with react.js. In daily meeting, i got to know coworkers use NLP to process text. This is the reference.
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At hathon day competition, Mohammad Karzand and I spent one day, applying machine learning-text analysis to score electronic articles and news. Fake news intent to mislead in order to damage an agency, entity, or person. With analysis 1) domain, 2) summary, 3) author, 4) and multimedia, score and category will be obtained if it is racism or porn. I did some front-end job . Later on this project filed patent. Here is reference:
https://patentscope2.wipo.int/search/en/detail.jsf?docId=US243320694&tab=NATIONALBIBLIO

Before Accenture, my first job is frontend application developer in inflight dublin, an entertainment company. One of an important project is that based on real-time twitter streaming data, i implemented a node.js sentimental analysis project to analyse custom satisfaction towards airline company. This project stored real-time data into distributed database, made sentimental analysis with word library and visualized data with d3.js.

My master major is Networks and distributed systems. Master life is quite interesting. We spent the whole class discussing how many nodes(servers) to deploy in a campus, in order to meet

requirement, reach balance, and fault tolerance; we understand what is performance analysis and middleware; we have design peer-to-peer chat-room; professor will handle over 10 articles to us in order to research a particular topic.

Soosokan, a location-based item search system, is an innovation project. We got first prize in citi upstart programme with Soosokan. It can search nearby what you want based on location, like water or gas station. This project is deployed onto AWS.

My graduation project is "a personalized ontology and rule-based approach to manage message overflow". I used Standford software to generalize message and user ontology input, and use java rule-base language to achieve preference score. This project is able to reduce overloaded message in a smart building and explore rule-based approach with multiple messages.

As a undergraduate student in Donghua university, I attended national math modelling competition as a freshman and sophomore, and I got second prize in Shanghai twice. I am able to use BP neural network and multivariate linear regression, etc. Besides, I attended artificial intelligence course and got some basic knowledge.

I think I am capable of pursuing PHD degree. My GPA rank second in my department and major GPA rank first. Some mathematics course obtained good results: Calculus(93/100,90/100), lineat Algebra(96/100),etc. And my graduation project was awarded as outstanding graduation project. And I was titled as excellent undergrad student in Shanghai.

Research proposal

1. Topic: Text analysis:

Problem:Based on text analysis and user preference, adapt rule-based engine and machine learning to manage mobile messages. It includes 1) judge if message is fake, dependable based on user comments, author, and summary(academic words library). 2)users have its own preference and messages can be categorized with preference score.3)analyse image in the text.(if possible)4) users' habit are changeable, this system can tolerant mutable user habit.
Compare rule-based approach and machine learning text analysis engine, and uplift message.
Expectation:a mobile app, which is able to retrieve email, text message, mobile news, categorize messages and filter out dependable message.

2. Topic: Image analysis

Based on food and dish photo, nutrient ratio in a dish can be obtained. Based on user' requirement, the project can score on dishes and make recommendation
The research will focus on recognizing low resolution image. After food is fried or streamed, the system still can be identified. Also the color of food can be used to judge if the food has nutrition.

Meanwhile, user's preference is changeable, this system will change according to mutable user habits.