

Overpowered

Summer 2018

Walktime Error

Cynthia Khan, Ricky Le, Caio Melo, Sean Silva, Noah Yasarturk

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Resumes

1. Cynthia Khan: Graduating Senior in the department of Computer Science at Georgia State University. I have selected Database & Knowledge Systems as my concentration and I find great interest in Data Science and System Automation topics. I have interned at Axiall Chemicals in Summer 2017 and was mentored by a Senior Database Administrator where I got exposure and hand-on experience on MS SQL Server databases. I currently work at Datascope, where I am modelling a visualization network, connecting their data to dynamic dashboards and generating reports from it. Outside of work I have also engaged myself in various voluntary projects relating to the concepts of Big Data, Data Mining and Machine Learning. I am confident in meeting the team's needs for Backend Development.
2. Ricky Le: I am a Senior at Georgia State University currently pursuing a Bachelor's Degree in Computer Science. I am undeclared in my concentration, however I have a strong interest in Hardware Systems. I am comfortable programming in Java, C, and UNIX Shell, and have a basic understanding of Python, C++, and Assembly (MASM). I have worked at the Mobile Cyber Physical Systems Lab as an intern doing research and development on Backscatter VLC on IoT Systems, and have experience working with microcontrollers, specifically Arduinos. My interest leans towards Electrical/Computer Engineering topics, specifically embedded systems and the Internet of Things.
3. Caio Melo: I am a Senior at Georgia State University pursuing a B.S. in Computer Science. I have experience with Java and Microsoft Office products. I'm currently in a marketing internship at Beecher Carlson, and I volunteer with Amazon's Mechanical Turks as a side income. I have beginner experience with MASM, Python, and HTML5. AI and botnet technologies fascinate me.

4. Sean Silva: I am a Senior at Auburn University who is currently pursuing a Bachelor's Degree in Software Engineering. My experience as far as programming goes is an adequate skill set with focus in Java, C++, and Python. I have worked minorly with other languages such as Ruby, Scheme and Prolog. Currently I am fascinated with game design and development as well as the robotics field. I have completed not only class assignments using Unity, but a couple personal projects as well. I currently work with a branch of my university's Office of Information Technology as a multimedia support member. From this work I have experience solving general IT problems that may arise in the audio and visual equipment of the classrooms. When it comes to my specific concentration, I am undecided as to what specific area of software engineering I want to focus on.
5. Noah Yasarturk: I am a Senior and Presidential Scholar at Georgia State University pursuing a B.S. in Computer Science with a concentration in Database & Knowledge Based Systems with a Math minor. I intend on pursuing a Master of Science in Analytics or Bioinformatics. I am proficient in R and Java primarily but am capable of using Python, C, and MASM (x86). I have a wealth of experience constructing UI in both Java via the Swing package and in R. I have experience with text data mining algorithms as well as creating and analyzing a Twitter stream. I've worked as an undergraduate assistant for Dr. Cox here at GSU's Institute of Neuroscience investigating dendrite morphology in *Drosophila melanogaster*.

| Member | Resume Link | Role |
|--------------|---|------------------------------|
| Cynthia Khan | https://www.slideshare.net/slideshow/embed_code/key/ban1T3yJekI5kt | Database Developer and Admin |
| Ricky Le | https://bit.ly/2Jnv mw2 | Firmware Developer, API |

| | | |
|----------------|---|---|
| | | Admin |
| Caio Melo | https://docs.google.com/document/d/1D26zf54F7E-CJOgTXkIHP2z8GMXVUS4b-jf9V8lSctM/edit?usp=sharing | Lead Web Developer |
| Sean Silva | https://drive.google.com/file/d/1V4Npqui_jgomTysXCcLnWGy9OwTvR_CO/view?usp=sharing | Lead UI Developer, IT Support |
| Noah Yasarturk | https://docs.google.com/document/d/1xrt3Hj4Y99Lm7tYyKCDH8wNh2-Ogm mh6qaS-4iFjEV8/edit?usp=sharing | Team Coordinator Junior UI Developer |

Team Organization

Given the ease with which we have been able to concur on viable project ideas and to acknowledge each other's expertise in varying subfields, we will operate as a democracy.

Project Proposal

For our project we assume to be working towards the need of an imaginary corporate client. The client receives daily utility bills for several of its buildings and use the service of a third party vendor that parses through the bills and composes the relevant information into a csv file. The csv file is then made available in a sftp server each morning for the client to retrieve.

We will develop a web application which will automatically retrieve the csv file and store it to a location on the client's own server daily. The program will then populate/update the client's database with the new information obtained from the files each day. The program will provide a visualization dashboard based on the information garnered from the client's utility bill database for ease of analysis. Using machine learning, the program will process this information further and determine if there is a disproportionate usage of energy by a particular building on a particular day. Should this be true, the program will notify the client via email so that the client can identify the source of the discrepancy (lights left on, AC usage outside of company standards, etc.) and thus control the overconsumption of power.

If the Computer Science Department were able to approve and allocate resources towards the purchase of a smart light bulb with an open API (estimated at being between \$50-\$100), we may be able to add a feature into the program whereby the dashboard of the program could elucidate if any lights were left on overnight or in a vacant office space so that the user/system can shut off the light remotely. Similarly we can add remote climate control for smart thermostats if we can access an associated API to continue to further contribute to the user's control over utility usage, thus providing the client with a complete cost effective and environment friendly software.