Interview Practice Information

**About me:**

* Mauricio Durán
* ITESO, Guadalajara
* Passion for technology from a young age
* Driven person
* Commited to continuous improvement
* What I love about this field is that it can be applied everywhere.
* Love finding solutions to problems
* I enjoy pushing myself with every challenge I can.

**Why Microsoft:**

* Microsoft has been part of my life ever since I was very young
* I really like Microsoft’s mission, because I believe it to be true
* I’ve noticed Microsoft’s openness to community
* I am amazed with how you can see Microsoft’s efforts a wide range of fields from Cloud Computing with azure to A.I to Videogames.
* Scale: Microsoft’s efforts reach humongous amounts of people. A single line of code can benefit millions.
* Innovate and contribute to a brighter world

**Questions or the interviewer**

There are new technologies coming out every single day. How do you adapt to the ever-changing technology environment? How does your team?

What’s your favorite part about working in Microsoft?

What gets you most excited about the company’s future?

Microsoft XCloud: Cloud based videogame streaming

**Greatest Weakness**

*Impatient*: In some cases, I want things solved fast, sometimes I’m too eager to solve problems as fast as possible. This can result in me omitting or ignoring special cases or the optimal solution.

Frustration: When I get blocked with something I can get frustrated which makes matters worse because then I’m even more blocked and on top o that the feeling o frustration is hard to handle.

**Why Facebook**

* Capable to adapting to conditions and Moving forward
* take risks
* Humongous impact on the world.
* I feel that sometimes it is key to think out of the box and take risks because this is how you set the path.
* I am very proactive and I really value a workplace where you are encouraged to take the initiative.
* Diversify, Facebook has learned to diversify, Instagram, Facebook, Whatsapp

**Novi, Libra**

**Questions for Facebook interviewer**:

This was exploding on the news and it got me very interested. What do you think about facebook stating that many employees will be able to request to change their positions to do remote work.?

How does one succeed in a work from home environment.

What do you think it is the biggest challenge facebook faces in the near future.

What do you do in facebook?

* **There’s a new tool to track political ad spend via the Ad Library.**  
  Researchers, journalists, and users in general can use the ad library to see how different campaigns and accounts are spending their money on political campaigns. This can promote transparency.

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|  | Mancala | Image Recognition | Poker Game | Rate my Professor | Small Talk | ScheduleMySemester |
| Most Challenging | Having to work with someone else’s code.  TA’s developed the game engine and some other classes and they were not very well documented and some of the variable names were not very descriptive. | Understanding the underlying logic of neural nets.  Our objective was to develop a dynamic convolutional neural net, to do that we needed complete understanding of the way they worked.  In order to actually make it flexible to user input/ | Developing a naïve PC agent to play against turned out to be quite challenging.  The first step was to create a method to evaluate the quality of our hand and then the agent could choose to swap cards given certain conditions. | Time management, I was taking on a heavy course load and it was the semester I started working.  Finding balance and doing the planning in order for things to go according to schedule. | As a personal project, setting the requirements and limits of the project was challenging. | This was a project for the requirements course.  The team was big and the pandemic happened so coordination between members was tough. |
| What you learned | I learned the importance of taking your time to understand the instructions and resources if any.  Domain knowledge can be key for performance improvement.  Continuous improvement.  I modified heuristics and and added non determinism | I learned the workings of Neural Nets and about its blackbox nature.  The best software that you can code is one that is easy to understand and to use.  Modularity is key so that your work can have multiple applications and isn’t tied to just one. | I learned about the usefulness of data structures and how they can be used to write more understandable code and make the application more modular. | I learned that even though sometimes we see planning as something boring, it is actually quite useful. | Focus on having a Minimum Viable Product and then add more features to it. | People can have different schedules and work methods, but if there is a clear objective set  and correct communication this should not be an issue.  Agile Development, stand up meetings. |
| Most interesting | UCB was something that I consider highly useful and interesting as it was a way of balancing exploration and exploitation to learn the best move. | The training process of the neural net. How we need data to train and then after that how a validation dataset is also needed and then we proceed to the actual testing phase to see the accuracy of the model. | The sorting function and the evaluation function, because this project was for an introductory course I used bubble sort algorithm and from the sorted hand I was able to design the evaluation function. | Working on the backend, I was really invested on the part of updating professor ratings. | Socket and Token handling using Redis which is a super fast on memory db. | Backtracking algorithm to generate all schedule alternatives starting with the ones that are of more interest to the user. |
| Hardest Bug | In the initial phase of development I found that my agent was taking paths that were very unconventional and yielded poor results.  This was due to not considering the game is turn based and that I needed to simulate that myself | After implementation of neural net module.  Results on simple and small test applications worked well.  Not the case for letter recognition. No matter the time we let the model train, the learning rate or epochs the error was still there.  Sorted validation set was used or training. | Issues with the access to the hands.  Solution was to create global variables.  This was poor design in my opinion. |  |  | There were no significant bugs in the project |
| Enjoyed most | I enjoyed getting into the basics of the game and finding common strategies to beat the opponent. | I really enjoyed the preliminary part which was studying neural nets, I rented three books and downloaded some slides to get a grasp on how neural nets operate. I focused on the theory for an entire week until I felt confident enough to code what I now knew. | Designing the game mechanics.  Make sure no card could be dealt twice in the same game. |  |  |  |
| Conflicts with Teammates | This was a individual project, however I discussed the given problem with my peers to try to come up with different ideas to solve the task. | So there were two parts of the project the first one was building the module for neural nets and then the second part was doing the image recognition and obtaining the datasets for training. My team member and I both were mainly interested in the implementation part. Even though I greatly desired solving every single part of the neural net I understood that doing this would either cause a problem in the team or we would end up neglecting the image recognition part so I made a proposal to my team mate, I told him that we should go over the logic of the neural net together and list all the tasks that needed to be done we divided the tasks so that we could both work on both parts of the project and that we would help each other if we stumbled upon a problem. This experience made me learn two things, first that two minds work better than one and my peers are fully capable of getting the job done.  And Second, that the collection of small easy tasks (in this case the image recognition part) are as important as the big complicated algorithms. | My teammate and I had different views on how we wanted the end result to be. He wanted to make a betting system where the user would start out with some money and he could play indefinitely until the user did not have any money left. I, on the other hand wanted to focus my efforts on making the PC intelligent so it could do good moves. The time constraints made it difficult for both features to be implemented.  I recognized that the project was not all mine so I discussed the possible options with my teammate and we both compromised to get to a project where both of us would be content. |  |  |  |