CRYPTOCURRENCY AND BLOCKCHAIN

Project #1 - Surya Suresh (V00998151)

Cryptocurrency Mining:

Cryptocurrency mining, or crypto mining, is the method of verifying transactions on a digital ledger for a blockchain and adding them to a distributed ledger using machines with extensive computing power. Most importantly, crypto mining prevents the double-spending of digital currency on a distributed network.
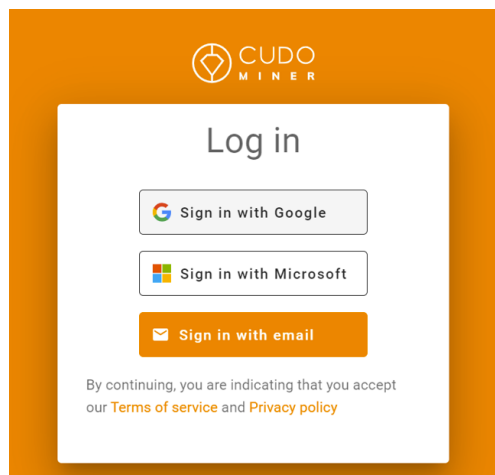
Cudo miner:

Cudo Miner is a cryptocurrency miner packed with features that help you earn as much money as possible from your laptop or PC. Cudo Miner is easy to install, safe on your hardware and secure to use. Cudo Miner will mine multiple coins and pay you in your chosen coin such as Ethereum, Bitcoin, Monero, or another currency. The multi-miner technology automatically switches its mining process between coins based on the real-time profitability of the coin, maximizing returns.

Monero XMR:

XMR is the native cryptocurrency of the private-focused block chain network Monero launched in 2014. It is an open-source project maintained by a decentralized developer community. The main advantage of Monero XMR is that it can be mined using our own CPU. It doesn't require any special hardware. Monero's blockchain is configured such that the transactions, identity of senders and recipients, and the amount in every transaction is anonymous and its blockchain strategy is based on "Proof of Work".

Steps to Mine a Monero XMR using Cudo Miner software

1. **Sign up and then login to your Cudo Miner Dashboard.**

Sign in with your Email ID and enter a password. You will even setup a two-factor authentication for security purpose (I used Google Authenticator)

2. The Cudo Miner dashboard is where you will manage all your Cryptominer machines and find installations for Windows. Click **Management -> Devices -> Connect a Device.**
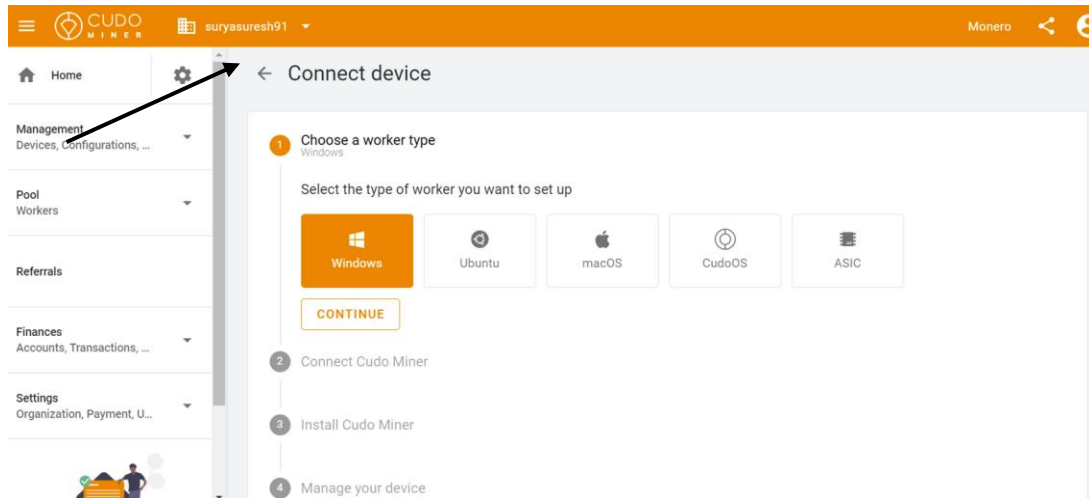
3. Choose worker type: Windows -> Download Cudo Miner. This will download the **CudoMiner.pkg**. Install the CudoMiner.pkg file, you may need to allow the package in System Preferences. Finally, click continue.

4. **Start Cudo Miner on Windows**

5. **Open Cudo Miner.app in the Applications folder on your Windows**

6. **Login to your Cudo Miner account.**
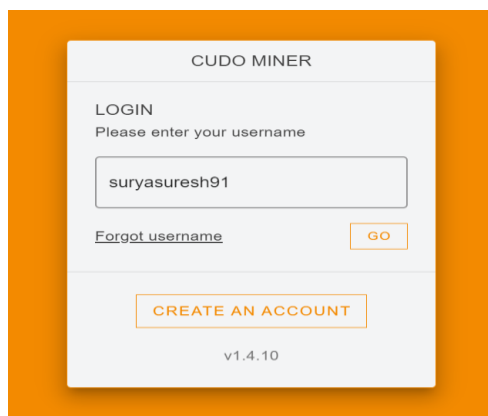
7. Start the Cudo Miner worker.
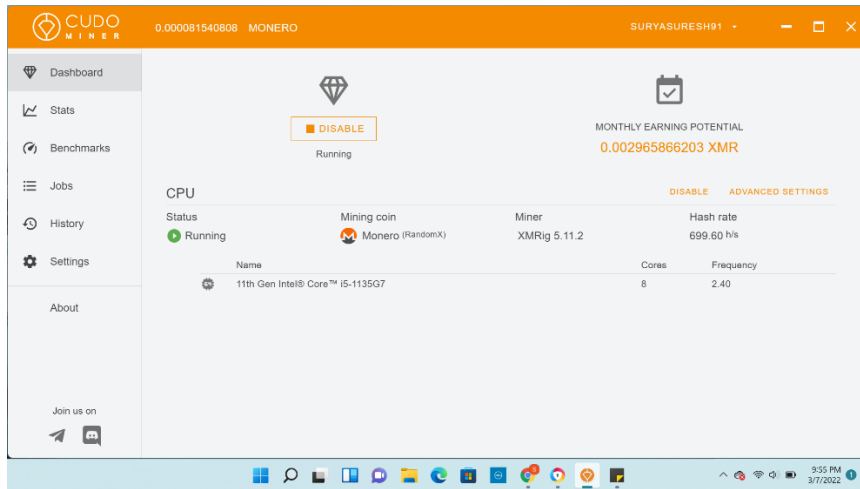
Here we can see that CPU started running to mine the Monero XMR. The miner is XMRig5.11.2 and hash rate is 699.60 h/s (8core CPU).

8. In the console you must select the display coin you want to mine. In this case I used Monero. The Coin which we want to withdraw after mining can also be set either in local currency or in Crypto currency.
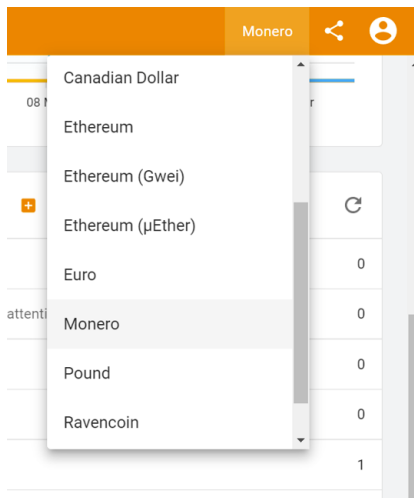
9. **Manage your Cudo Miner workers and earnings at the Cudo Minder dashboard -> https://console.cudominer.com/**
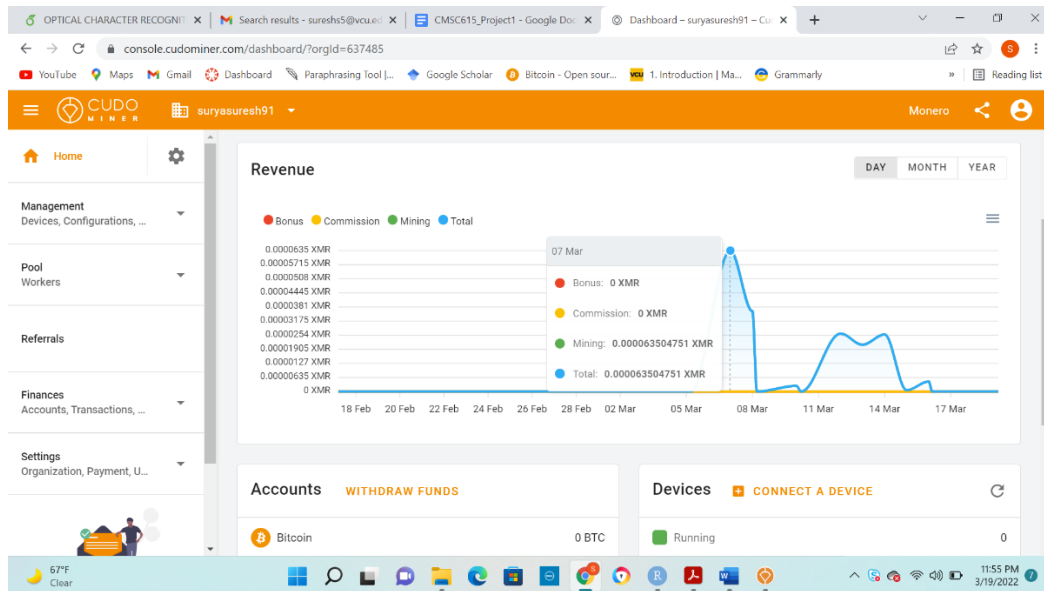
Configuration settings were added for the device under the Management section which will help the CPU to work even if the computer is not active.
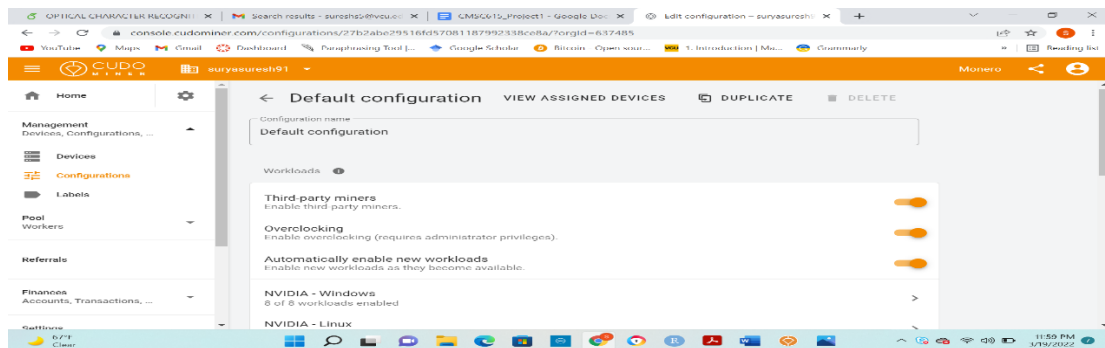
All the transactions and account details were given in the finance section
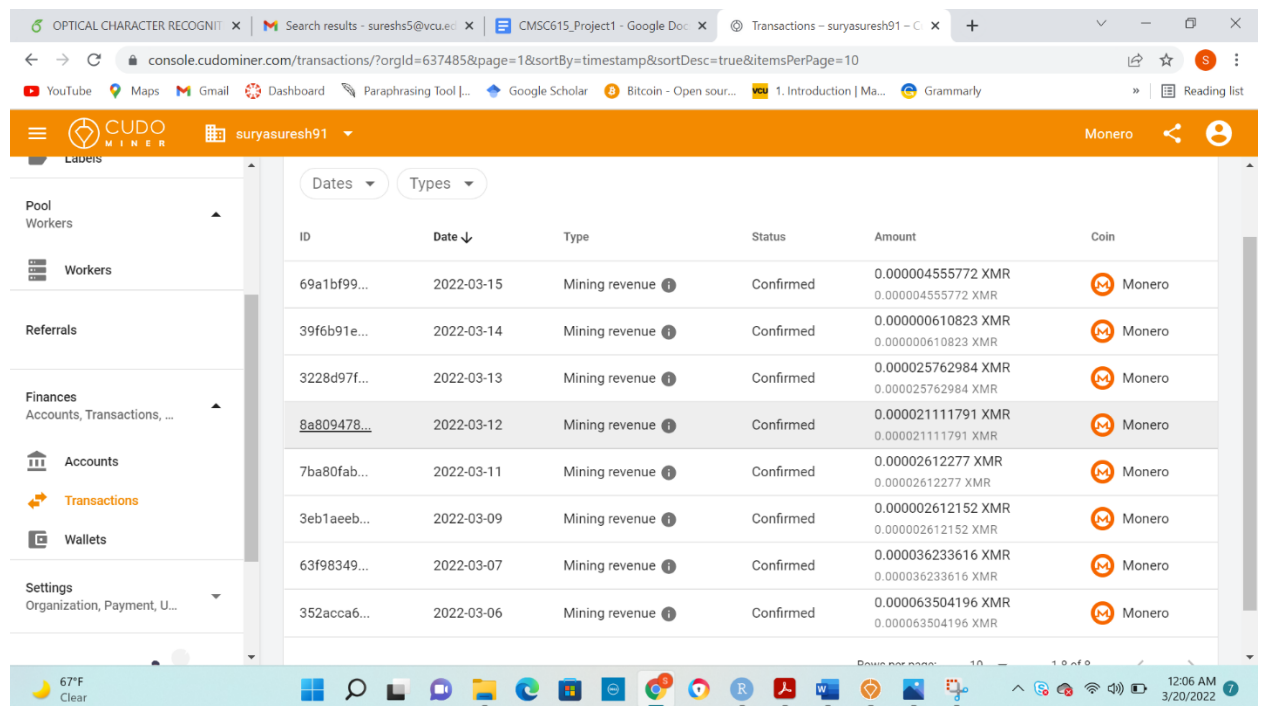
Here in the job history, we can see that there was many Private Monero pool were worked in the Mining like, XMRig 5.11.2, XMRig6.8.0, XMRig6.7.2 etc. All these miners participated in the Puzzle those won were able to receive some reward.

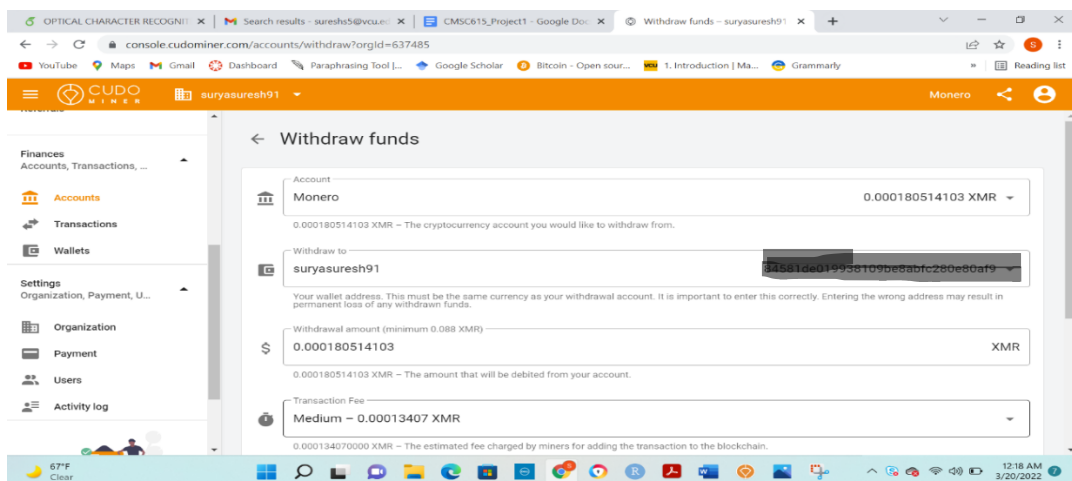**Mining Transaction History from March 6-March15 and the amount received**

Wallet Creation

We can create a wallet in the cudo miner dashboard to manage our earnings and to withdraw funds.We have to use a generated secret key (Address) for adding a wallet.


Withdraw funds

Funds can be withdrawn only if the account has a minimum of 0.088 XMR. Her after mining more than 1 week, we have received a revenue of 0.000180514103. So if we continue to mine for some more days we can generate a Monero XMR coin for transaction.

All the rewards get added to unconfirmed balance after they are received. This amount is included in total mined but is not available for withdrawal yet. Once it reaches a confirmation threshold, amount will be added to your current balance.

Final Project Revenue after Mining: 0.003051445262 XMR
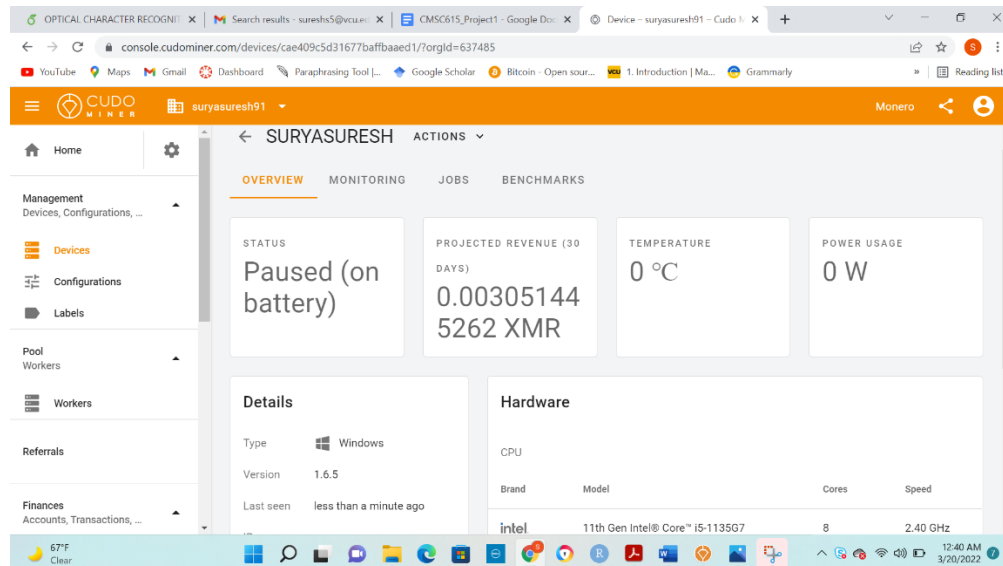
Conclusion:

In this way, mining process is executed in Cudo miner software and after obtaining confirmation balance, the transaction can be performed. I was able to understand the complete concept of PoW from this project.