

Nathaniel M. Rose

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Accomplished and motivated developer interested in advancing computational systems and enhancing the field of AI & neurotechnology.

Education:

Syracuse University

L.C. Smith College of Engineering and Computer Science

Bachelor of Science; **May 2014**

Major: Computer Engineering

Minor: Information Technology, Design and Startups

University of California Berkeley

College of Electrical Engineering & Computer Science

Concurrent Graduate Student; **In Progress**

Major: Computer Engineering

Concentration: Machine Learning & Neural Engineering

Skills:

Development Skills:

Languages: C, C++, Python, C# Java, JavaScript, XAML, GoLang, Typescript, x86 Assembly, VHDL, PHP

Databases: PostgreSQL, SQL Server, MongoDB, Cassandra, CosmosDB

Web Dev: Flask, Node.js, Jekyll, Django, ASP.NET, Angular JS, Bootstrap, MEAN Stack

Cloud Solutions: Apache Spark, Apache Airflow, Databricks, Docker, Kubernetes, Terraform, RabbitMQ, Apache Kafka Apache Beam, Portworx, Travis CI, Azure Devops, GitOps,

Data Science & ML:

Tensorflow, Jupyter/Ipython Keras, ImageNet, AudioSet, MATLAB, ML Studio, CNTK, OpenCV

Other:

Open BCI, JGrasp, Maple 15, Finale, Pro Tools 9, Adobe Photoshop, Serato, iCUB, EEG Headsets, Kinect, Muse Headset, Public Speaking, Event Planning, 13 Years Music Experience, Grilling Steaks

Professional Work Experience:

06/20-Present **RippleLabs**

Remote

Senior Software Engineer | Data Infrastructure

- Focused on deploying data applications using data infrastructure tools such as apache Airflow, Cloud Composer, Fivetran and BigQuery
- Managing GCP cloud infrastructure resources through terraform, CICD automation, validation tests and Kubernetes interoperability

07/14-Present **Microsoft Corp.**

San Francisco, CA

Technical Evangelist | SDE | SDE II

- Developed scalable ML Data Science pipeline on Kubernetes leveraging Tensorflow and AudioSet
- Shipped and contributed to open source application Terraform orchestration project built using Kubernetes (Bedrock)
- Constructed deployable CI/CD pipelines for production applications, Unit Testing and Integration Tests logged with Junit
- Worked with Apache Spark, DataBricks, DataStax, Lambda Architectures and Time Series implementations
- Partnered with SF developer community in building projects that further the IoT, NeuroTech, and Data Science fields

06/12-09/12 **JP Morgan Chase & Co.**

Jersey City, NJ

Global Corporate Technology Infrastructure Intern

- Aided in the distribution of the Windows 7 operating system for 250,000 worldwide machines
- Used node.js to migrate Sharepoint webpages that displayed Windows 8 distribution for internal teams
- Created training course curriculums using SCORM Conformant Content for team members

Research Work Experience:

EEG Brain State Decoding (2019)

In this study, the reproduce and assess the findings of Tayeb et al, a paper that use deep learning models to classify motory imagery data from EEG test subject. Through the scope of memory equivalent capacities this paper concludes the results cannot be repeated or reproduced for the shallow methods and that the high accuracies for the deep models originates from the flawed combination of sliding-window preprocessing and 5-fold cross validation, which results in the same data in training and test sets

A.I. Predictive Reward Research (2014)

In this study, the team will model the production and inhibition of dopamine signals used in the human brain to train an artificial neural network programmed into a humanoid robot. My contributions to this project will be the creation of a 2-class decision tree model that simulates dopamine receptors when a task is accomplished by the humanoid machine.

Italian Institute of Technology Summer Resident Intern (2013)

Introduced to basic A.I. and robotic engineering fundamentals including motor control, and neural networks. Developed algorithm using C++ that was used to study humanoid predictive rewards and functionality. Studied emerging research in robotics such as visual recognition pipelines, tactile servoing, optimization and more.

Memberships and Organizations:

NSBE Jr. Bay Area

NeuroTechxSF

TealsK-12

Founder **2019**

Member **2015**

CS Teacher **2015**

Certifications

Google Cloud Certified Associate Cloud Engineer

Databricks CD Apache Spark

MCSD: Azure Solutions Architect

2020

2018

2017