Erick Cabrera

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Education

Hunter College *Bachelor of Arts, Computer Science*

Minor concentrations, Economics & Mathematics *New York, NY*

Relevant Courses: Practical Unix Programming Lab, Discrete Structures, Operating Systems, Computer Architecture I & II, Computer Theory I, Software Analysis and Design I, II & III Object Oriented Programming, Database Management, Advanced Applications: Capstone.

Skills

- **Programming Languages:** Python, C++, Javascript, Bash, Dart, Perl, Mips Assembly, Swift
- **Markup:** HTML, CSS, Markdown
- **Database:** SQL, MYSQL, PostgreSQL, MongoDB
- **Frameworks/Libraries/Environment:** Numpy, React, Pytorch, Node, Matplotlib, Scikit-learn, Express, Axios
- **Cloud/VCS/OS/SDK/Text Editors:** AWS EC2, AWS CLI, Flutter, Github, Firebase, Google Cloud, Git, Linux, UNIX, VS Code, XCode, VIM

Projects

Tekintralinked LLC Version 2.0 - github.com/MarceloDamian/TekIntraLinked_Website **February 2025 - Current**

- Designed and implemented HTTP methods through RESTful APIs on **Node.js, Email.js, Resend, and Axios** to handle user authentication and data processing, to manage emails and newsletters.
- Utilized in-demand technologies such as React, Javascript, Node, HTML, CSS, and Axios to effectively build the full-stack application.
- Used AWS EC2 and AWS CLI to create an instance and deploy the web application using a virtual server, and monitored CPU utilization, NetworkIN, and Average Write Size.
- Used AWS Route 53 to route users to GoDaddy's domain, Tekintralinked.com, using their respective namespaces.
- Modified Apache's configuration file to allow multiple port access from ports 80 and 443 to work for HTTPS and HTTP, through a reverse proxy server, NGINX, for the localhost port.
- Used an elastic IP address on an ipv4 to associate public IP addresses for hostnames and NGINX and created a self made ssl certificate.
- Created a swapfile for an earlier t2.micro version to bypass RAM memory limitation and heap limit allocation by using virtual memory.

ParkerUp - github.com/MarceloDamian/ParkerUp **August 2024 - Current**

- Developed an IOS and Android application that used a variety of in-demand technologies such as Flutter, Dart, CoreData, and SQLite with different subsets of data to build a community-driven app using a p2p network to create a navigational system.
- Applied and managed more than 8 different APIs, including but not limited to Firebase authentication, Google Cloud, Google Maps, and User Data to adequately manage the flow of data and authentication.
- Created a CI/CD analysis of UI/UX designs before the development of ParkerUp's mobile app. Earlier drafts included Swift before migrating to Flutter's framework for scalability.

MNIST Image Classifier - github.com/MarceloDamian/MLNeuralNetwork **July 2022 - September 2022**

- Developed a multi-layer neural network with Numpy & Python with the MNIST dataset to classify hand-drawn images; **achieved over 80% accuracy.**
- Developed numerically stable nonlinear functions for hidden layers for forward feeding and backpropagation with vanilla Python and NumPy only.
- Optimized backpropagation by fine tuning hyperparameters as well as using gradient descent with momentum to help converge the data and avoid local minima.
- Used "He's initialization" for weights and biases to optimize the multi-layer neural network for Leaky ReLU.
- Allowed complex multi-layer neural networks to be formed in an easy object-oriented manner using tuples.
- Allowed data imputation with zero constant values, as well as pre-processing data carefully to improve training efficiency.