

# ANDRÉS CAMILO CARVAJAL S.

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## EXPERIENCE

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### DeepMake

Machine Learning Engineer

Apr. 2023 – Present

Remote, USA

- Spearheaded the development of cutting-edge generative AI tools for the visual effects and media industry, leveraging PyTorch, TensorFlow, and Python.
- Applied agile methodologies to enhance AI tool development, focusing on backend and data science for computer vision, including large foundational models like Stable Diffusion and Segment Anything Model.
- Built scalable backend infrastructure with FastAPI and CUDA for high-performance computing in AI tasks.
- Demonstrated expertise in Gaussian Splattings, 3D cloud points AI, and real-time video processing algorithms for AI-driven visual effects.

### SharpestMinds

Data Science Fellowship with Mailchimp's Manager Data Scientist

Remote, USA

Sep. 2022 – May. 2023

- Completed an intensive apprenticeship under the guidance of Mailchimp's Senior Data Scientist, mastering end-to-end data science workflows.
- Led the development of advanced machine learning and deep learning models, enhancing predictive analytics for marketing strategies.
- Utilized NLP and computer vision to automate content and image analysis, contributing to innovative marketing and operational efficiencies.
- Developed predictive models using advanced statistical techniques, with proficiency in Python, SQL, and Git, alongside leveraging DevOps for scalable model deployment.

### Peaku.ai

Full Stack Developer

Remote, USA

Sep. 2022 – Mar. 2023

- Completed a 5-month apprenticeship, excelling in full-stack development with Vue.js, Flask, FastAPI, and Django REST framework, demonstrating a comprehensive grasp of both front-end and back-end technologies.
- Enhanced web application performance and user experience by employing advanced HTML, CSS, and JavaScript techniques, ensuring responsive and intuitive UI/UX design.
- Executed a machine learning project on binary classification with high prediction accuracy, integrating AI capabilities into web applications to provide smarter user interactions.
- Utilized Docker for containerization, ensuring streamlined deployment processes and adopted agile methodologies for rapid development cycles, enhancing team efficiency and product reliability.
- Managed application development within a Linux environment, showcasing proficiency in operating systems and command-line tools for development, testing, and deployment workflows.
- Collaborated closely with design teams to implement effective UI/UX strategies, translating user and business needs into functional and aesthetically pleasing web interfaces.

### CAREL USA

Software Developer, Automation Engineer

Hybrid / Roswell, GA

Jun. 2022 – Apr. 2023

- Engineered innovative HVAC control systems and software solutions, incorporating advanced protocols (Modbus, Ethernet, Profibus, BACnet) and IoT for energy efficiency and system optimization.
- Leveraged data science for HVAC system data analysis, and applied forecasting techniques for revenue prediction.

- Developed full-stack applications for Programmable Controls and Electronics in HVAC systems, ensuring optimal performance and user experience.
- Implemented front-end interfaces using JavaScript within the controller to enhance user interaction and control mechanisms.

## Data Science - ML Projects

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- Interior Design Generator - Vue.js - FastAPI.
- Fuzzy Wuzzy Matching Project
- Summarization and translation from YouTube videos using mT5 transformers.
- MasterCard stock price time series forecasting using LSTM and GRU.
- Simple-Movie-Recommender and Content Based-Recommender from IMDB movies dataset.
- Multiclass prediction and clustering for music genre.

## CERTIFICATIONS

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- GIS, Mapping, and Spatial Analyst tools Specialization, University of Toronto – Coursera. [Certificate](#).
- Python for Everybody Specialization, University of Michigan – Coursera. [Certificate](#).
- Python 3 Programming Specialization, University of Michigan – Coursera. [Certificate](#).

## EDUCATION

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### Universidad de Los Andes UNIANDES

*Bogotá D.C, Colombia*

*Master of Science in Civil Engineering (STEM),*

*Jun. 2021*

*Emphasis in Geotechnical Engineering*

Advisor: PhD. Nicolas Estrada Mejia; [Thesis](#): “Why the landslide size is a characteristic of fractal behavior?”

### Universidad Pontificia Bolivariana UPB

*Bucaramanga, Colombia*

*Bachelor of Civil Engineering*

*Dec. 2017*

Advisor: PhD. Sandra Rocío Villamizar; [Thesis](#): “Waste utilization scheme common solid points for the UPB under the concept of circular economy”

## SKILLS

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- **Programming:** Python (NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, TensorFlow), MATLAB, GIT, BASH.
- **Front-end:** HTML, CSS, JavaScript, Vue JS, Streamlit, Gradio.
- **Back-end:** Flask, Django, FastAPI, Docker.
- **Visualization, GIS and Statistical Software:** Excel, R Studio, Python (Matplotlib, Seaborn), GeoPandas, Figma, Adobe PS, ArcGIS, D3.js.
- **Machine Learning:** (Supervised Learning) Regressions, Random Forest, XGBoost, Perceptrons, Multi-layer Perceptrons (MLP), Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Long Short-Term Memory networks (LSTM), Unsupervised Learning (Clustering, Principal Component Analysis (PCA), Autoencoders).
- **AI:** Deep Learning, NLP, Computer Vision, Generative Diffusion Models, Gaussian Splattings, 3D cloud points AI, video generation, LORA, Langchain, Chain of Thought, ReACT, SAM, (LLMs) Llama, Gemini, GPT 3.5, GPT 4, T5 and BERT.
- **Cloud:** Google Cloud Platform, Vertex AI.
- **Database Management:** (SQL) MySQL, PostgreSQL, SQLite, (No-SQL) MongoDB, Redis.