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Top Skills

Deep Learning
Convolutional Neural Networks
CNN

Languages

English (Native or Bilingual)
French (Elementary)
Spanish (Native or Bilingual)

Patents

Interactive Content Generation
Vehicle Matching System and Method
Interactive Content Generation
Interactive Content Generation

Adrian Munguia

Top | 20 Years Building Successful | & | Win BIG In LATAM!
San Diego

Summary

I am an () - working with some of the biggest names in the global industry.

Need help? Message me, I will help you!

I lead AI MEXICO, and facilitate the responsible widespread adoption of AI to achieve transformative social impact.

WHAT WE DO:

▸# We help people build AI-intensive products.
▸# We help companies solve difficult problems with the right algorithms and AI approaches.
▸# We help companies hire, train, and structure in-house AI teams.
▸# We advise governments looking to embrace AI and deliver more efficient public services.

WHO WE WORK WITH:

We work with global partners in

▸# Healthcare
▸# Retail & E-commerce
▸# Fintech
▸# Logistics and Transportation
▸# Manufacturing
▸# Defense
▸# Law Enforcement
▸# Entertainment, Gaming or Marketing

WHY IT WORKS:

▸# We deliver the most efficient, effective, transparent, and cost-effective AI services comprised of R&D and product-oriented

engineering, AI models that meet client specs and professionally engineered and deployable software.

WHAT MAKES US DIFFERENT:

▸# We are the only group experienced in AI with 20 years of industry success as part of innovative startups and world-famous Fortune 500 companies.

▸# I have personally contributed important CV inventions leading to US patents: 9177225, 9336459, 9317778.

▸# I am a skilled problem-solver with an accurate sense of the algorithms that need to be improved, and the CV and ML approaches to be modified to meet contractual rates and obtain customer sign-off.

WHAT OTHERS SAY:

"...he did amazing work on some state of the art AI, like identifying the ship container Doors, front. We call it Doordirection detection. All done in the real-time, with response result time in msec... Very hard working guy, day and night are the same for him. Looking forward to working with Adrian again in the future."
- Sundaram Nagaraj, ABB

"Genius, diligent, and hard worker explain Adrian. He is one of the leading machine learning minds that always pushes the boundary of possibilities. If you are lucky enough to work with him you will not only get results but learn from the best."
- Eric Williams, CEO, OIM2

HOW IT WORKS:

Schedule a FREE 1-hour consultation, I will answer your questions and detail a plan to move forward.

READY TO TALK? Let's connect here on LinkedIn, drop me a line at iam[at]adrianmunguia.com, visit me online

at www.adrianmunguia.com, text, or call me directly at +1(408)462-0708.

Experience

AI MEXICO
Founder and Director
January 2019 - Present (1 year 8 months)
Mexico

Coordinate efforts between major national and international stakeholders from academia, industry, society, and government to facilitate Mexico's responsible widespread adoption of AI. Direct a team of twelve resources which include seasoned industry professionals and important university professors and researchers from the USA, Mexico, and the UK. Contribute to the AI Mexican Agenda as part of the organizing team of the Mexican coalition IA2030Mx. Create an ambitious set of collaboration agreements with organizations around the world. Set corporate vision. Make all major corporate decisions. Lead the Ethics Committee and the Inclusion, Diversity, and Equity Committee. Act as the principal communicator for the organization. We are all over the media!

We create in-house AI teams for companies everywhere.

Selected Contributions:

➡# Achieved international recognition for building a diverse community around AI that in less than one year grew from 30 members to more than 500 members in eight countries.

➡# Successfully grew the AI MEXICO community presence to the entire Baja California region (Ensenada, Tijuana, Mexicali), becoming the only deeplearning.ai Mexican ambassadors.

➡# Received letter from the Canadian government expressing support of our objectives and that the Baja California region had turned into a potential lead for investment by Canada.

➡# Have influenced the creation of new AI programs at the undergraduate and graduate levels in the Baja California region.

➡# Developing AI capabilities as part of our startup support program. Assisting Aiyudame, from Panama develop a question answering system,

ABB
Computer Vision Scientist - Consultant
October 2014 - November 2019 (5 years 2 months)
Greater San Diego Area

Successfully spearheaded all AI and CV efforts at the ABB Ports and Services Business Unit. Collaborated engineers to solve port automation issues for customers around the world. Delivered a combination of production quality code in C++ and state of the art CNN deep learning models built with Caffe and TensorFlow to the field closing many outstanding contracts. Created entirely new CV products and successfully deployed them around the world.

Selected Contributions:

➡# Designed, implemented, and deployed the Container Door Direction product allowing uninterrupted automated loading of ships. This made ABB the industry leader in such a product offering. Took the product idea from inception to production. Implemented in C++ and extensively used OpenCV and Caffe.

➡# Designed, implemented, and deployed the Hazardous Materials Placard Detection System for an automated verification of containers entering ports at contractual rates of 90% accuracy. Used Haar Cascades and a custom anomaly detector based on CNN and a one-class SVM (CNN+SVM anomaly detector). Successful after careful extensive data augmentation. Implemented in C++ and extensively used OpenCV and Caffe.

➡# Designed, implemented, and deployed the Bolt Seal Detection System allowing verification of the presence of bolt seals on container doors entering ports at contractual rates of 90% accuracy. Used Haar Cascades and a custom anomaly detector based on CNN and a one-class SVM (CNN+SVM anomaly detector). Implemented in C++ and extensively used OpenCV and Caffe.

Berkeley Applied Analytics
Computer Vision Scientist - Consultant
April 2017 - November 2017 (8 months)
San Francisco Bay Area

Provided key CV and deep learning knowledge to assist decision making on technologies and algorithms to be implemented on an autonomous patrol vehicle for the San Francisco Police Department.

Selected Contributions:

➡# Developed the core software module for object recognition from street scenes. Trained a CNN to classify objects. Implemented in C++ for Linux, and used OpenCV and Caffe.

➡# Developed the semantic segmentation module for street scenes from in-patrol cameras.

➡# Trained and implemented a CNN using Caffe for vehicle type classification.

OIM Squared

Sr. Computer Vision Scientist - VP of Machine Learning Science

April 2014 - September 2016 (2 years 6 months)

Greater San Diego Area

Successfully assembled an entire Computer Vision R&D team focused on building quality commercial products. Designed the team structure and determined the required competencies. Interviewed and hired a team of four CV Ph.D.s and two seasoned software engineers. Recognized for successfully directing team efforts in developing a video analysis CV framework turning detected objects into shoppable items as part of an e-commerce platform. Coordinated SCRUM, algorithm review meetings, code review meetings, and guided efforts to meet corporate objectives.

Selected Contributions:

➡# Built a highly productive team of four Ph.D.s and two seasoned software engineers that developed a commercial-grade multi-platform CV framework in C++.

➡# Took ideas from conversations with executives to production generating U.S. patents: 9177225, 9336459, 9317778.

➡# Served as the primary communicator to investors and upper management.

➡# Successfully worked across the entire organization and added value to Human Resources, Sales, and Business Development.

Decision Sciences Corporation
Sr. Imaging Scientist
December 2012 - April 2014 (1 year 5 months)

Main contributor in designing and developing the next generation of AI algorithms for the Multi-Mode Passive Detection System (MMPDS) for improved radiation threat and contraband detection. Mentored management, scientists, and engineers on algorithm approaches, tools, and difficulties associated with the MMPDS data.

Selected Contributions:

➡# Designed, implemented, and deployed the object classification module which used a support vector machine (SVM) classifier. Implemented in C++ for Scientific Linux, and used the libSVM library.

➡# Successfully trained an SVM to meet product specifications and detect nuclear contraband.

➡# Established a process for data collection, training, and deployment of models to the field which involved finding best parameters using the libSVM grid search and the Synthetic Minority Over Sampling (SMOTE) technique for highly-imbalanced data.

➡# Assisted in gaining a deeper understanding of the MMPDS data by implementing a set of Python tools for processing and visualization like Self Organizing Maps (SOM), Principal Components Analysis (PCA), Multidimensional Scaling (MDS), among others.

Aperio (now Leica Biosystems)
Sr. Systems Software Engineer
May 2012 - December 2012 (8 months)

Successfully provided CV and algorithm development support for urgent customer-requested Digital Pathology product upgrades.

Selected Contributions:

➡# Contributed to an important Digital Pathology product upgrade by implementing an algorithm for automatic camera gains adjustment. Implemented in C++ for Windows.

➡# Successfully solved an important weakness of the Digital Pathology product autofocus capabilities failing to work on brain tissue, which is smooth. Tissue focus point localization was improved by a DoG approach inspired by the SIFT method. Developed in C++ for Windows and used OpenCV.

APS Technology Group, a Member of the ABB Group
Imaging Scientist - Consultant
September 2011 - February 2012 (6 months)
Greater San Diego Area

Contributed to product improvements with image processing and CV algorithms to increase the performance of the Optical Character Recognition (OCR) engine, and removing noise from images.

SAIC
Imaging Scientist
March 2008 - June 2011 (3 years 4 months)
Vista, CA

Contributed to the success of the Security & Transportation Technology Business Unit (S&TT BU) by implementing imaging, machine learning, and computer vision algorithms to solve a wide range of product performance issues and close many outstanding contracts. In my role as the only Imaging Scientist in a BU of exclusively Imaging products, I impacted every product in many important ways. Successful at taking many product features and entire product ideas from inception to production. Received SAIC achievement award three years in a row for my contributions.

Selected Contributions:

➡# Successfully led algorithm and software development efforts of the NextGen OCR software based on SVM. The single module impacted the Vehicle Enforcement System (VES), Intelligent Intermodal System (IIS), Automated Gate System (AGS), and rest of the OCR-enabled systems across the BU for License Plate Recognition (LPR), container identifier OCR and chassis OCR.

➡# Designed, implemented, and a patent is pending on the VACIS XPL image difference module (Easy Match) for finding contraband hidden in passenger vehicles. Implemented in C++ for Windows and used OpenCV, SIFT, and nonlinear warping methods.

➡# Achieved 95% accuracy on LPR for many VES toll road deployments and AGS/IIS systems around the world leading to customer sign-off and closing outstanding contracts.

ImageWare Systems, Inc.
Software Engineer
August 2006 - March 2008 (1 year 8 months)
San Diego, CA

Successfully led the Law Enforcement product suite certification efforts with the California Department of Justice (CALDOJ) and other agencies across the USA. Achieved certifications of devices with the FBI. Recognized for quickly building proof of concepts and demonstrable software showcasing advanced technologies, and writing SBIR proposals.

Selected Contributions:

➡# Successfully achieved the CALDOJ certification of the Law Enforcement products for CUSTODY and Identification Only (IDN).

➡# As part of R&D efforts implemented algorithms for iris detection from mug shots and from a distance, and recognition of Scars Marks and Tattoos (SMT).

Education

Centro de Investigación Científica y de Educación Superior de Ensenada
Master of Science - MS, Computer Science · (1999 - 2003)

Universidad Autónoma de Baja California
Bachelor of Science - BS, Computer Science · (1994 - 1998)