SANJAY NICHANI

San Diego, California | sanjnich@gmail.com | 508-314-5087 | https://www.linkedin.com/in/sanjnich/

I am seeking executive-level opportunities in Artificial Intelligence and Computer Vision, where I can leverage my extensive expertise in leading high-performance teams to address significant market needs and overcome complex technological challenges. With over 15 years of experience and a proven track record of innovation, I have successfully bootstrapped and led multiple AI R&D and engineering teams, resulting in numerous market-leading products and solutions.

KEY ACCOMPLISHMENTS

Guide: Led development of the Peloton Guide from scratch, an AI-powered strength training product utilizing computer vision for real-time feedback and performance tracking. Grew team from 5 to 40, established a technical lead manager track, and implemented a companywide mentorship program.
Check Deposit and CoreFlow: Modernized check deposit technology and bootstrapped a team to invent and develop Mitek CoreFlow, an advanced algorithm for anomaly detection, biometric matching and document forensics, enhancing identity verification processes for government issued IDs.
People Sensor: Developed 3D Computer Vision systems using Stereo and Structured light technologies to detect and track people in indoor and outdoor environments, creating robust anti-piggybacking and tailgating sensors for security applications, and white labeled by two leading door manufacturers.
Patmax: Key developer of Cognex Patmax, a revolutionary 6 DOF rotation and scale-invariant geometric pattern matching tool, which disrupted factory automation applications for alignment and quality control.
Patent portfolio: Inventor on 41 patents spanning computer vision, image processing, machine vision, machine learning, and AI applications. Full portfolio: https://www.merakona.com/patents.html

EXPERTISE

ML | Computer Vision | Stereo | Generative AI | Stable Diffusion | Recommender Systems | Agile Dev. | Engineering Mgmt. | Software Optimization | Edge Compute | C++ | Python | PyTorch | Cross-platform APIs

EDUCATION

MBA, Entrepreneurship, **Babson College** **MS**, Computer Science, **University of South Florida**
BE, Electronics and Computer Science, **Bangalore University**

WORK HISTORY

Booksby Corporation– San Diego, CA **AI Advisor, Consultant**, 01/2024 to Current

- Led the development and deployment of an image generation suite and API in Python for personalized children's books. Focused on character and style consistency, image interactivity through object-aware generation, and personalization with customized avatars (based on a child's likeness).
- The project utilized a variety of technologies: Flux, Stable Diffusion SDXL & SD3, Pixart Sigma, object detection (Grounding DINO, OWL), segmentation (SAM), inpainting, IPAdapter, ControlNet, LORA for finetuning, RAG for semantic search, and DinoV2 for dataset generation.

Peloton Interactive – New York, NY **VP AI/Computer Vision**, 10/2020 to 7/2023

- Led the development of the Peloton Guide, an AI-powered strength training product that revolutionized home workouts through real-time computer vision analysis. The system uses a monocular camera to deliver personalized coaching, including smart framing, movement tracking, rep counting, and form feedback. Architected and directed development of core computer vision algorithms for object detection, human pose estimation, people tracking, and activity recognition, enabling automated performance analysis for millions of members.
- Led the AI/ML team responsible for Computer Vision and Personalization/Recommendation (the latter for all Peloton products). Grew team 8X through organic growth, M&A, and internal mobility. Established various functions such as Platform, Data Ops, R&D, MLE, QA, and Alpha/Beta testing.
- Instituted mentorship and industry internship programs. Collaborated on ML career levels, compensation bands, and pioneered the TLM (technical lead manager) track at Peloton.
- Oversaw the entire lifecycle of CV development for the Guide, including prototyping, scaling solutions, handling diversity, bias mitigation, hardware optimization, data operations, MLOps, field testing, pre-launch model improvements, post-launch features, and production model monitoring.

Acuant Inc – San Diego, CA. **VP AI/Computer Vision**, 10/2019 to 10/2020

- Developed a modular, optimized library for document capture, data extraction, forensics, and face matching, enabling seamless cross-platform integration across iOS, Android, Windows, and Linux.

Mitek Systems Inc – San Diego, CA **VP, Mitek Labs**, 03/2016 to 05/2019

- Led the Mitek Labs computer vision and machine learning team to develop algorithms and technology to power products for Identity verification (MobileVerify) and check deposit (MobileDeposit).
- Coinvented the next generation ID verification CoreFlow pipeline, incorporating novel techniques for document detection, classification, extraction, authentication, and face verification.
- Established and managed a team of 40 scientists/engineers, responsible for hiring and integrating new resources. Successfully conducted due diligence and integration of multiple European acquisitions.

Merakona Inc, Pelfunc Inc – San Diego, CA **Founder/Consultant**, 01/2007 to 02/2016

- Developed APATS, an anti-piggybacking and tailgating system, that detects unauthorized use of access control systems. The technology utilizes structured light and 3D technology for people sensing in revolving doors and licensed by two major door manufacturers (Assa Abloy and Door Controls).
- Developed 2D and 3D CV technologies for various OEM customers, including loss prevention in grocery stores, thrown object detection at airport exits, and drug identification for pharmacies.
- Created "Squeak", a new paradigm for mobile photo sharing by adding a timeline to it. Squeak16 App allows users to add voice, sketch, zoom, and text to their pictures, creating 16-second animation clips.

Cognex Corp – Natick, MA **Director, Advanced Products**

- Developed 3D stereo vision technology for detecting and tracking people in unstructured environments for the products: Doorman, for safe activation of automatic sliding doors, and People Sensor, for enhancing doorway security by counting people passing through access-controlled doors.
- Lead Developer for Patmax, an advanced rotation and scale invariant pattern alignment tool.
- Developed optimized Computer Vision library for various image processing operations like edge detection, gaussian smoothing, corner detection and image arithmetic using hardware acceleration.