ALEJANDRO ABARCA BLANCO

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As an engineer, product manager and inventor, I bring over a decade of hands-on experience in conceptualizing, designing, and developing scientific instrumentation, industrial hardware products, medical software and devices that push technological boundaries. My consistent objective has been to bridge the gap between intricate challenges and tangible solutions that enhance quality of life and productivity. Fueled by a passion for multidisciplinary collaboration, I am seeking opportunities to join dynamic teams dedicated to shaping the future of technologies.

DIRECTOR OF ENGINEERING (HARDWARE & SOFTWARE)
Delee Corp (www.delee.co) | Laredo, TX | 2017-PRESENT

- *Product Development*: Led a cross-functional team of 20 experts from product MVP, product requirements, hardware and software design, production and launch of two cutting-edge medical devices for cancer diagnostics and therapy monitoring using liquid biopsy technology. Our technology has won more than 4 international awards.
- *Innovation*: Established an R&D team, resulting in three non-provisional patent applications and four articles published in top-tier scientific journals.
- *Regulatory Compliance*: Worked closely with regulatory affairs teams to ensure all products met stringent FDA and CE standards (ISO 13485:2016 & 21 CFR Part 820)
- *Stakeholder Engagement*: Represented the company at industry conferences, seminars, and forums, bolstering brand presence and establishing strategic partnerships with hospitals such as Stanford Healthcare and MD Anderson Cancer Center.
- *Cross-functional Collaboration*: Collaborated with sales, marketing, and finance departments to ensure successful product commercialization.
- *Technical Development*: High expertise designing optical, mechanical, pneumatic, electronic, and software systems for automated blood handling and multimodal microscopes. Mentored junior engineers, promoting continuous learning and innovation.
- *Strategic Leadership*: Formulated and implemented the company's technological strategy, aligning with business objectives and the evolving medical device landscape.
- *Funding*: Secured $1.2M through government grants for R&D, $1.5M through crowdfunding, and $1.5M from institutional investors.
- *New Technology Adoption*: In collaboration with the Research Hospital (Dr. José Eleuterio González), I led a team responsible for creating a successful custom Large Language Model Application aimed at automating data capture and auto-filling of medical records for physicians and nurses. The application saves up to 2 hours per day for at least 80 physicians in paperwork filling. (www.photuris.co)

SENIOR HARDWARE & SOFTWARE ENGINEER
Zen Fluidics | Monterrey, MX | 2014-2016

- *Product Development*: Spearheaded the conceptualization, design, and product development of a line of microfluidics research equipment, becoming the company's top-selling product.
- *Technical Development*: Designed pneumatic and embedded electronic systems, product housings, and cloud software for automated pressure-based pumping systems, flow sensors, and liquid valves. Maintained design documentation, ensuring consistency and adherence to company standards.
- *Team Collaboration*: Collaborated with sales, marketing, and finance departments for successful product commercialization. Mentored junior engineers, promoting continuous learning and innovation.

EDUCATION

- M.S. Engineering (Robotics and Advanced Manufacturing)
  Tec De Monterrey, Mx, 2014
- B.S. Physics and Engineering (Minor Software Engineering)
  Tec De Monterrey, Mx, 2012

BUSINESS & ENTREPRENEURIAL EDUCATION

- The Ganesha Lab (8th Gen)
  Santiago, Chile, 2023
- Start X Med
  Palo Alto, Ca, 2020
- Leaders In Innovation Fellowship (Royal Academy of Engineering)
  London, UK, 2019
- Y Combinator (W17)
  Mountain View, Ca, 2017
- Global Solutions Program (Singularity University)
  Moffett Federal Airfield, Mountain View, Ca, 2012

TECHNICAL SKILLS

- Design Tools: SolidWorks, Fusion 360, GD&T blueprints and interpretation, etc.
- Prototyping: 3D Printing, 3&5 Axis CNC Machining, Sheet Metal Laser Cutting, CNC sheet metal bending, Wire EDM, Plastic Injection, Reaction Injection Molding, Finishing & Coatings, etc.
- Simulation: COMSOL Multiphysics
- Quality Assurance Tools: Six Sigma, Lean Manufacturing, 5S, Kaizen
- Standards: ISO 9001, ISO 13485:2016 & 21 CFR Part 820
- Electronics: Altium Designer CAD, PCB design and prototyping, ARM Cortex & PIC microcontrollers, etc.
- Programming: C, C#, Python
- Frameworks: Flask, Fast API, Django
- CI&D Tools: Docker, Kubernetes, Git, etc.
- Cloud: AWS (EC2, RDS, S3, etc.)
- Frontend Prototyping: Figma, Flutter & Flutterflow
- Data bases: PostgreSQL, MongoDB, Pinecone, etc.
- Image Processing: OpenCV
- Data Science Tools: ChatGPT API, Langchain, PyTorch, Pandas, Seaborn, etc.
- Product Management Tools: Jira, Trello, Basecamp, etc.
- Methodologies**:** Agile, Scrum, Kanban, etc.
- Languages: English (Fluent), Spanish (Native)

PUBLICATIONS & PATENTS

My publications can be found on my LinkedIn, ResearchGate or Google Scholar profile.

- Co-authored 8 papers in top tier scientific journals
- Submitted 3 non provisional US patent applications