

JOSE L. AGRAZ, Ph.D.

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Qualifications Summary

Entrepreneurial, thinker, published author, well rounded, materials and electrical engineer seeking RF engineering position. Began as an RF electronic technician, later becoming an electrical engineer, culminating with Ph.D. attending top tier universities. My journey resulted in a rare combination of hands-on, know-how, and theoretical skills with focus in software, mixed signal hardware, and prototype development. Offers experience in Magnetic Resonance Imaging (MRI), SAR for MRI applications, Finite Element Method (FEM) Atila, Signal Conditioning, Fiber optic communications, electrical, computer science, switching power supplies, CDMA, and materials engineering. In addition, product development; definition, design, execution, prototyping, and implementation, with focus in instrumentation development and familiar with most laboratory test equipment.

Critical Skills

Strategic influencing at Csuite levels and all levels	Complex problem solver	Teacher/Author (5 patents awarded, 5 pending, 12 publications, 2 pending)
Experienced wearables project manager (health bio sensors, etc)	Experienced MRI Instrument researcher, relates to quantum Comp	LabView, C, Matlab, and FEA
Experienced Xbox Kinect programmer	Coaching / Mentoring	Vendor/supplier management

Education and Training

NORTHWESTERN UNIVERSITY (Chicago, IL)/UNIVERSITY OF CALIFORNIA, LOS ANGELES

PhD, Emphasis in Magnetic Resonance Imaging Device Development, 2013

PENNSYLVANIA STATE UNIVERSITY (University Park, PA)

Masters of Science in Electrical Engineering, Emphasis in Piezoelectric Material Motor Development, 2005

UNIVERSITY OF CALIFORNIA (San Diego, CA)

Code Division Multiple Access (CDMA) Engineering Certificate, 2002

SAN DIEGO STATE UNIVERSITY (San Diego, CA)

Bachelor of Science in Electrical Engineering, Emphasis in mixed signal circuit design with biomedical applications, 2000

Electrical Engineering Experience

INTEL CORP

Product Design Engineer, 2016

- Business and Technical lead for the Precognition of Falls in the Elderly wearable project. The devices aims to open a \$4.2 Billion elderly market to Intel by 2021, with 16.9 Million recurring customers in the developed world
- Technical lead for KBL product line Circuit Marginality Validation, resulting in a more efficient binning of CPUs, maximizing Intel's revenue at \$1,723 per unit
- Technical lead for hydrophone base, early alert, drowning detection & assistance embedded system project. Project is estimated to bring \$60k per system, while preventing 2.6K children drowning injuries, with a cost reduction in healthcare costs in excess of \$150K each

SELF EMPLOYED

Research & Development Lead Engineer, 2013-2016

- Developed LabView Test Platform Automation for passive RF filter testing. Integrated Microwave inc. Automation software increase throughput 10 fold, increasing revenue at a minimal expense

- Project lead, Matlab Musical Sonification of three Dimensional Data. One patent in progress. Resulting software increased student's focus and material retention, raising student's GPAs
- Developed remote sensing Baby Heart Beat Tracker prototype based on microphone arrays. Device aims to open a \$2.9 Billion market by 2019
- Developing Hyperpolarization Arbitrary Wave Generator prototype lowering device cost from \$1.5K to ~\$200
- Bitcoin mining. Developed Bitcoin Pool Mining System harvesting at peak \$900 per day.
- Xbox Kinect motion tracking. LabView software development for motion tracking and motion music modulation
- Pilates rehabilitation machine tracker. Retrofit PIC Microcontroller based exercise quantification device

NORTHWESTERN UNIVERSITY/UCLA/CEDAR-SINAI MEDICAL CENTER

Research Assistant, 2008-2013

Developed Instrument for the hyperpolarization imaging at the molecular level for Magnetic Resonance Imaging (MRI) applications. One patent and five publications, three as first author

AIR FORCE SPACE COMMAND

RF Electronic Technician (Civilian Contractor), 1995-2002 and 2004-2008

Maintained and repaired electrical systems hardware for the detection and tracking of satellites. Two first author publications

PENNSYLVANIA STATE UNIVERSITY

Research Assistant, 2002-2004

Developed miniature non-moving parts piezoelectric material motor for mobile phone camera lens focus and fiber optic alignment applications. One publication and one patent

CADENCE DESIGN SYSTEMS

Senior Test Engineer, 2000-2002

Developed C based test programs and supporting hardware for mixed signal application-specific integrated circuit (ASIC) characterization, Teradyne and Credence testers.

Selected Patents

Device and methods for para-hydrogen induced polarization. U.S. Provisional 61/698,488

Piezoelectric ultrasonic motor for 2-dimensional positioning. 7,501,743.

Fatigue monitoring device and method. 6,352,516 and 6,673,026 Europe WO0172223

Wearable Based Drowning Victim Detection Device. Intel in process

Ultrasound Uric Acid Crystal Blasting for Gout Applications. Intel in process

Echolocation Wand and Vibration Feedback Device for the Blind. Intel in process

Musical Sonification of three Dimensional Data. San Diego State University in process

Selected Publications

Improved PHIP Polarization using a Low Noise Precision Voltage Controlled Current Source, JMR 235 (2013) 77-84*

PHIP Instrumentation Pinch Valve System for Sample Delivery. Adv. Biom. Sci. Eng. Vol. 1 (2014) 8-17*

LabVIEW-based Control Software for para-Hydrogen Induced Polarization Instrumentation, RSI 85, 044705 (2014)*

Finger Force Sensor Instrumentation Design. IJERSTE. Vol. 3, Issue 3, (2014) 149-155*

Effects of polarization rotation in the detection and tracking of orbiting objects using LabVIEW. IEEE (2014) 1-6*

Delta-Shaped Piezoelectric Ultrasonic Motor for Two-Dimensional Positioning. Jpn. J. Appl. Phys. 47 (2008) 313-318