

# KEDAR ARAS

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## Bioengineer - Cardiac Electrophysiologist - Scientist

### Core Competencies

#### Cardiac Electrophysiology:

PhD in bioengineering specializing in cardiac electrophysiology. Received Young Investigator Award from the International Society for Computerized Electrocardiology (ISCE) for outstanding research. Seven plus years of translational research experience in various biological models. Adept at study design and execution (i.e., design of experiments, cardiac electrical mapping system, advanced statistics)

#### Bio-signal & Image Processing:

Skilled in cardiac signal (ECG) processing (noise filtering, signal averaging, feature detection) and scientific visualization including image processing (i.e., segmentation of anatomical heart, fiber & vasculature from MRI, DT-MRI & CT scans), geometry processing (i.e., surface & volume mesh generation, landmark registration) and visualization (3D & 4D signal mapping)

#### Software Engineering:

M.S in computer science and engineering specializing in scientific applications. Expertise in software development phases (i.e., design & architecture, coding, unit/integration testing and deployment) and related technologies including OOP (C/C++, Java, C#), databases (MySQL, Oracle) and web development (AJAX, HTML/XHTML, CSS, JavaScript, PHP)

#### Technology Leadership:

Unique blend of business and technical savvy. Results oriented professional, recognized for taking on major initiatives, lead and collaborate with business partners, executive sponsors, and stakeholders to gather business requirements and define technology roadmap. Strong track record of scientific papers combined with teaching and mentoring. Exceptional interpersonal and presentation skills at all levels including concise verbal and written communication

#### Specialities:

Cardiac Electrophysiology, Bio-signal & Image Processing, Computational Electrophysiology, Scientific Visualization, Experiment Design, Biomedical Engineering, Software Engineering, Innovation, Intellectual Capital Management

## PROFESSIONAL EXPERIENCE

University of Utah, Scientific Computing & Imaging Institute (SCI), SLC, UT

2007 - Present

### Doctoral Candidate, Cardiovascular Engineering

Investigation into the ECG signature of acute myocardial ischemia to enable early detection and accurate diagnosis of patients at risk of ischemic heart disease. Research techniques include: 3D & 4D cardiac mapping using high-density electrode arrays; and MRI, DT-MRI and CT scans of heart, fiber & vasculature

- Planned, developed, and executed experimental protocols and methods
- Developed ECG signal processing & feature extraction algorithms
- Designed and implemented image processing, geometry processing & data visualization workflow
- Published and presented findings in peer-reviewed journals and scientific conferences
- Mentored and supervised undergraduate students in academic research



**University of Utah, Lasonde Entrepreneur Institute, SLC, UT**

**2009 - 2010**

**Lasonde Student Associate**

Spearheaded a team responsible for early-stage business development including intellectual property assessment, market analysis and business model development for a drug discovery company (Integratech Proteomics)

- Developed competitor profiles (SWOT) and market penetration strategy
- Researched and consulted on funding strategies and potential markets
- Evaluated and developed multiple business models



**Whirlpool Corporation, World HQ, Benton Harbor, MI**

**2004 - 2007**

**Intellectual Property Manager**

Scope of responsibility encompassed developing a global intellectual property (IP) strategy for Whirlpool and helped drive its execution

- Led a cross functional team that developed a global framework for IP generation, management and value extraction
- Designed and implemented processes & tools for IP management
- Cultivated a global IP community of practice with focus on knowledge sharing, problem solving and implementing best practices
- Trained and educated employees on IP including basic laws, processes & tools



**Whirlpool Corporation, World HQ, Benton Harbor, MI**

**2002 - 2004**

**Business Analyst**

Responsible for developing new business models, rapid prototyping and testing of new product ideas and process efficiencies

- Designed and implemented a productivity tool for tracking projects and resources
- Developed competitor profiles (SWOT) relative to their business & consumer strategies
- Spearheaded a team that prototyped and tested a new point-of-sale technology concept to improve floor sales



**Whirlpool Corporation, World HQ, Benton Harbor, MI**

**2000 - 2002**

**Engineer**

Responsible for design & architecture, coding & testing and deployment of web portal services and appliance communication protocols

- Designed and implemented communication protocols embedded in electrical appliances to enable control over the web.
- Developed web interfaces for home appliances including cooking & washing assistants
- Designed and implemented web based home productivity tools including calendar & scratch pad

**EDUCATION**

**Ph.D. (Bioengineering), University of Utah, UT (Dec 2014 expected)**

**M.S. (Computer Science & Engineering), University of Notre Dame, IN**

**B.S. (Computer Engineering Technology), Andrews University, MI**

**HONORS & AWARDS**

- **Jos Willems Young Investigator Recipient**, International Society for Computerized Electrocardiology (ISCE), 2014
- **Young Investigator Finalist**, International Congress on Electrocardiology (ICE), 2013