

VENKAIAH CHOWDARY KAVURI

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SUMMARY OF QUALIFICATIONS

- In-depth understanding of global optimization techniques (Simulated Annealing Algorithm, Genetic Algorithm) and local optimization techniques (Gauss-Newton, Levenberg-Marquardt and Conjugate gradient methods) and their combinations.
- Familiar with several linear algebra techniques such as Singular Value Decomposition(SVD), LU decomposition and Eigenvalues.
- Experienced with Matlab, Python, SAS and SPSS scripting for performing statistical/predictive analysis.
- Experienced with signal processing tools such as short time Fourier transform (STFT), wavelet transform, noise filtering and parameter estimation.
- Leading a team of 5 for neural ICU(optical monitor) project at University of Pennsylvania. Lead a team of 4 for prostate cancer project at University of Texas Arlington.

EDUCATION

University of Pennsylvania, Philadelphia, PA September 2014 - Present

Postdoctoral Researcher in Department of Physics and Astronomy

- Projects:(1)Optical instrumentation (stroke measurements) for Neural ICU. (2) Wearable optical flow measurement device design for muscle during exercise. (3) Optical mamography.

University of Texas Arlington, Arlington, TX August 2010 - August 2014

Doctor of Philosophy in Biomedical Engineering/Medical Imaging

- Dissertation - Development Of Trans-rectal Ultrasound (TRUS) Coupled Diffuse Optical Tomography (DOT) For Prostate Cancer Imaging

Jawaharlal Nehru Technological University, Hyderabad, India September 2003 - May 2007

Bachelor of Technology in Biomedical Engineering

- First class with distinction

PROFESSIONAL EXPERIENCE

University of Pennsylvania, Philadelphia, PA . October 2014 - Present

Postdoctoral Researcher, Yodh Biomedical Optics Lab, Philadelphia, PA

- Designed a non-invasive cerebral blood flow instrument to be used in neural ICU for predicting recurrent stroke. The instrument will be used to measure blood flow in prefrontal cortex of the brain using single photon counting techniques and diffuse auto-correlation techniques.

University of Texas Arlington, Arlington, TX August 2010 - August 2014

- Originated, designed and built multi-spectral, low-cost and portable DOT instrumentation (using basic electronic circuit design and signal processing) then improved existing reconstruction methods (enhanced depth localization and images) by combining depth compensation algorithm and L1-regularized least squares method.

COMPUTER SKILLS

Matlab	Labview	Python	C	Solidworks	Comsol
MS Office	Ubuntu	ImageJ	L ^A T _E X	SAS	SPSS

PATENTS

- “TRUS-Integrated FD-DOI Multi-modal Imaging System for Prostate Cancer,” US Provisional Patent Application Serial No. 61/985,905, April 2014.

HONORS

- STEM Full tuition assistantship, University of Texas Arlington
- Outstanding Student Award -2014, University of Texas Arlington

⁰Resume compiled on September 13, 2015