



## Vanderbilt University and Medical Center, Nashville, Tennessee, USA Post-doctoral Fellowship in Medical Image Processing for Dermatology

### Position and project description:

This post-doctoral scholar position is ideal for innovative computer scientists seeking to **launch a career aiming to transform the practice of medicine**. Long-standing collaborations at Vanderbilt have resulted in unique datasets of total body photography of the skin in several severe diseases including cancer therapy complications and infectious diseases. Vastly exceeding anything similar in the public domain, these **curated, high-quality datasets** include tens of thousands of longitudinal skin images that are coupled to clinical information including outcomes of randomized controlled trials. The scholar will explore innovative image processing and AI approaches in close collaboration with top clinical experts to discover imaging biomarkers in these datasets. Additionally, more advanced imaging data is being continually acquired prospectively at the Vanderbilt Dermatology Translational Research Clinic (VDTRC.org), including 3D images, hyperspectral data, and clinical bedside videomicroscopy. Technical challenges that the scholar may choose to address include registration, segmentation, object identification and classification, colorimetric analysis, ground truth variation, crowd-sourcing, and weakly labeled data. The scholar will be a part of a multi-disciplinary team tackling clinical challenges in oncology (e.g. stem cell / bone marrow transplantation), rheumatology (e.g. systemic sclerosis), infectious diseases (e.g. mpox), and dermatology (e.g. Stevens-Johnson Syndrome).

The goal of the fellow is to **develop and deploy technologies in our ongoing multicenter trials** to track disease progression and response to treatment. The scholar will lead funded projects and will be encouraged to formulate their own research ideas and take on mentees to increase their impact. They will be provided infrastructure and mentoring for independent funding. Scholars will interact with a broad range of collaborating experts in clinical medicine and technology as well as several innovative partners in industry. Trainees in this well-funded program will enjoy competitive benefits including NIH rate salary. This post-doctoral training is expected to be an ideal segue into an independent faculty position at a major medical center.

### Environment:

Selected candidates will benefit from a personalized research program catered to their goals utilizing resources and mentoring from an active community of collaborating professors within Electrical and Computer Engineering, Computer Science, Dermatology, Infectious Disease / Clinical Pharmacology, Rheumatology, Biostatistics, Biomedical Informatics, and Biomedical Engineering. This environment brings together clinicians, basic scientists, engineers, and statisticians in close collaboration due to its interdisciplinary research and close physical proximity of the School of Medicine to the School of Engineering (100-200 yards).



### Qualifications:

Applicants must have a technical PhD and have demonstrated record of rigorous & creative contributions and a capacity to communicate effectively with experts from a range of disciplines. The Vanderbilt University Medical Center is an equal opportunities employer.

### Application and contact:

Every applicant should send a CV and a one-page personal statement, and two reference phone numbers and email addresses to:

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