

JOB DESCRIPTION
CHILDREN'S HOSPITAL LOS ANGELES
Supervisor and Non-Management Position

Job Description:

The primary function of this position is to perform advanced neurovascular analyses on MRI data acquired from 90 pediatric and young adult survivors (ages 7-25) of COVID-19 who are experiencing cognitive symptoms. Data will include 3D-T1 for morphometry, 3D-T2 and multishell diffusion for white matter injury, 3D multiecho gradient echo imaging for susceptibility weighted imaging and quantitative susceptibility mapping, multi-delay arterial spin labelling, phase contrast, T2 relaxation under spin tagging, water extraction by phase contrast arterial spin labeling, resting state fMRI for connectivity and cerebrovascular reserve measurements, and asymmetric spin-echo imaging. The applicant will co-register all the data into common space and perform multimodal general linear modeling with respect to disease predictors. Primary outcome variables involve established image analysis techniques, however there will be considerable room for exploratory analyses and methods development. Conference and journal paper preparation are an integral part of this position, and there may be opportunities to participating in grant submissions as well.



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Position Title: RESEARCH SCIENTIST - Imaging Modifications - JW	Department Name: Various
Job Code: 001776	Department ID: Various
Direct Patient Care (Y/N): N	Exempt/Non-Exempt: Exempt
Reports To (Title): Various	Effective Date: 05/01/2022
Purpose Statement/Position Summary	
<p>The research scientist will be responsible for supporting development and maintenance of imaging acquisition, imaging analysis algorithms, data and processing servers, and statistical testing. Will interact with a team of highly motivated mathematicians, physicians, and engineers, working on innovative methodological approaches to acquire new information about the physiology of the brain. In particular, s/he will acquire and analyze large numbers of novel imaging sequences focusing on brain physiology. Responsibilities include training and mentoring students and scientists at USC/CHLA, and from other institutions.</p>	
Essential Functions and Job Duties	
	% Time Spent (At least 5%)
Maintains and extends of imaging acquisition, imaging analysis algorithms, data and processing servers developed by the laboratory.	40%
Uses the software to analyze datasets. Presents results in progress reports, abstracts, and publications.	30%
Participates in the training and mentoring of scientists, physicians, and students in key programming techniques. Manuscript generation, workshop presentations which may involve travel.	20%
Assists with management of day-to-day operations of the laboratory, individual processing computers, and data storage and processing servers. Serves as a resource for all lab personnel for problem-solving and decision-making.	5%
Performs other duties as assigned.	5%

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Job-Specific Competencies (Select from Competency Library)	Definition
Communication Skills	Expresses oneself clearly and effectively when speaking and/or writing to individuals or groups; listens attentively, ensures that information is understood by all parties; shares information in a timely manner using the appropriate method; presents well-organized information in a group setting.
Planning and Organizing Skills	Is organized and has the ability to manage multiple tasks at one time. Organizes work, sets priorities, and determines resource requirements; determines the necessary sequence of activities needed to achieve goals.
Decision Making/Problem Solving	Generates creative approaches to addressing problems and opportunities; identifies and weighs options; makes sound decisions after reviewing all relevant information; anticipates and plans for potential problems; takes calculated risks; recognizes the impact of solutions.
Results-Orientation	The ability to focus on the desired results, make decisions in a timely manner, anticipate the implications and consequences of a situation and take appropriate action.
Technical Expertise	The ability to demonstrate depth of knowledge and skill in a technical area. Possesses, acquires, and maintains the technical/professional expertise required to do the job effectively and to create client/customer solutions.
Presentation Skills	Effectively presents ideas, information and materials to individuals and groups. Effectively prepares and provides structured delivery; facilitates workshops or meetings in a structured manner; can facilitate and manage group process.
Research and Analysis	The ability to efficiently and accurately identify and locate relevant sources of information followed by a capacity to synthesize and analyze data of various complexity and importance.
Project Management	The ability to demonstrate an understanding of planning, organizing, staffing, directing, and controlling work tasks towards a desired outcome.
Detail-Oriented	Is alert in a high-risk environment; follows detailed procedures and ensures accuracy in documentation and data; carefully monitors gauges, instruments or processes; concentrates on work details, and organizes and maintains a system of records.

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Minimum Qualifications/Work Experience

The candidate would have been expected to have ≥ 4 years of practical research experience through their PhD training. Expected skill sets include experience in statistical and computational approaches to modeling complex biological systems, developing and using population models for inference and control, and algorithm development. Knowledge of high level (MATLAB or Python), scripting (bash, R, Perl), and/or lower level (C, Fortran) programming languages is highly desirable.

Education/Licensure/Certification

Ph.D. in electrical engineering, bioengineering, statistics, quantitative biology, neuroscience, computer science, or allied field with completed and published thesis work in quantitative biology.

Physical Requirements with Key

Below you will find a list of criteria requirements for physical requirements. Please use the check box to identify the appropriate physical requirement.

**** Key for Physical Demands****	
Continuous	66 to 100% of the time
Frequent	33 to 65% of the time
Occasional	0 – 32% of the time

(Click in the one of the boxes relevant below next to Patient Care or Non-Patient Care) ()

Patient Care

- Continuous standing/walking and occasional/intermittent sitting.
- Continuous use of bilateral upper extremities in fine motor activities requiring fingering, grasping, and forward reaching between waist and shoulder level to handle/operate medical equipment/devices.
- Frequent reaching above shoulder level and overhead.
- Frequent forward bending, twisting, squatting and kneeling; occasional climbing.
- Occasional repositioning and transferring patients weighing up to 200 pounds between bed, chair, and gurney.
- Occasional lifting and carrying equipment weighing up to 25 pounds.
- Occasional/intermittent pushing of gurneys, wheelchairs, bed and other medical equipment over tiled and carpeted surfaces.
- Continuous use of near vision to read medical equipment such as monitoring devices and reading documents and computer screens; hearing and verbal communication to interact with patients, co-workers, and other customers.

Non - Patient Care

- Frequent/continuous sitting with occasional, intermittent standing/walking.
- Continuous use of bilateral upper extremities in fine motor activities requiring fingering, grasping, and forward reaching between waist and chest level.
- Occasional/intermittent reaching at or above shoulder level.
- Occasional/intermittent bending, squatting, kneeling, pushing/pulling, twisting and climbing.
- Occasional/intermittent lifting and carrying objects/equipment weighing up to 25 pounds.

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- Continuous use of near vision, hearing and verbal communication skills in handling telephone calls, interacting with customers and co-workers and performing job duties.

As Direct Patient Care Provider, Provides Care For:

Not applicable	<input checked="" type="checkbox"/>	Preschool	<input type="checkbox"/>
Neonatal	<input type="checkbox"/>	School Age	<input type="checkbox"/>
Infant	<input type="checkbox"/>	Adolescent	<input type="checkbox"/>
Toddler	<input type="checkbox"/>	Young Adult	<input type="checkbox"/>

Signature

I have been given a copy of this job description, I have read this job description, and I understand the responsibilities for the position:

Employee Name (Print):

Employee ID:

Employee Signature:

Date: