Postdoctoral Fellow Position In Advanced Manufacturing Robotic Processes.
University of Alberta

Job Title	Postdoctoral Fellow Position In Advanced Manufacturing Robotic Processes.
Department	Mechanical Engineering
	https://apps.ualberta.ca/directory/person/ajquresh
Institution	University of Alberta
	Edmonton, Alberta
Date Posted	May 12, 2024
Application Deadline	Open until filled
Position Start Date	Available Immediately
Job Categories	Post-Doc
Academic Field(s)	Robotics Mechatronics Mechanical Engineering Manufacturing & Quality Engineering Industrial & Systems Engineering Engineering Physics Electrical and/or Electronics Computer Engineering Computer Science Engineering - Other
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Job Description	

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ADAMS88230506PDF

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The Position

Additive Design and Manufacturing Systems Laboratory has an immediate vacancy for a Postdoctoral fellow in advanced manufacturing robotic processes with a focus on industrial robotic additive and hybrid manufacturing technologies. Candidates with experience in the Robot Operating System (ROS) and ROS 2 or PLC based control of robotic arms will be preferred.

This position will be open to candidates who possess an undergraduate degree in Electrical Engineering, Computer Engineering, Mechatronics Engineering, Computer Science, or a relevant discipline **and a Ph.D.** in the area of serial robotics, advanced robotic manufacturing automation, or additive manufacturing.

The position is currently vacant and available for an immediate start. The applications will be reviewed in the order received, and the position will remain open until filled. The contract's initial term will be one year, extending depending on the contract's continuation, individual performance, and funding availability. The salary will be commensurate with the experience.

Required Qualifications

The ideal candidate will possess expertise and experience in the following areas demonstrated through research or thesis work or professional experience:

1. Experience in robotic automation, specifically with respect to serial robotic arms through robotics software framework Robot Operating System (ROS) and ROS 2, PLC-based automation, or a similar robotic process automation environment.

2. Experience in system integration (software and hardware) of robotic systems and various system components and sensing systems

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3. Proven experience (projects) in C/C++. and Python programming languages, software, and build environments

Preferred Qualifications

In addition to the above requirements, candidates with experience in the following areas will be given priority:

1. Experience in working with additive manufacturing systems (in particular robotic WAAM or laser DED)

2. Experience with programming Motoman and Fanuc robots, including interfacing with ROS

3. Experience with Cmake and Catkin

The successful candidate will be required to work independently and demonstrate excellent verbal and written English communication skills through high-quality journal publications in the research area. The candidate will also be involved in developing research grant proposals, research management, and the co-supervision of graduate students. The candidate should possess or be eligible to apply for a valid driver's license and will be expected to travel within the city and Alberta as per the project requirements. The candidate should also be willing and eligible to travel to other provinces or internationally as per the project needs.

The Project

ADAMS Lab has several large-scale robotic additive and hybrid manufacturing platforms for carrying out cutting-edge research in large-scale Metal, Polymer, Polymer composite, and hybrid additive subtractive manufacturing systems. The candidate's primary responsibility will be to continue research and development of these large-scale industrial robotic automation platforms and automated robotic manufacturing cells for industry 4.0 automation solutions for the energy, mining, space, and automotive industries.

The scope of the project includes the following tasks for the design and manufacturing of components:

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- Robotic arm trajectory control for advanced manufacturing processes

- Integration of various sensing technologies with the robot software toolchain for data collection, analysis, and real-time control

- Process planning and tool path planning for experimental builds, including software development for process planning and build execution

- Development, design, and implementation of software feature extensions to facilitate the testing of novel process optimization, estimation, and control strategies

Application Procedure

The applications will be accepted only through an online submission process by accessing the link given below

https://forms.gle/btmCZD86uh9gyMJ89

The candidates will be asked to fill an online form and upload the following PDF files:

- A cover letter explaining how your experience and expertise in robotics is a good fit for fulfilling the primary job responsibilities.

- A detailed curriculum vitae highlighting areas of research, a list of publications, awards, and honors, and a list of three professional references

The review of applications will begin immediately, and applications will be accepted until the position has been filled.

Interested candidates should use ADAMS88230506PDF as the job competition number in the online form. For more information about the position, you may contact Ahmed Qureshi at ajquresh@ualberta.ca

We thank all applicants for their interest; however, only those short-listed will be contacted.

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EEO/AA Policy

The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact Dr. Ahmed Qureshi
Mechanical Engineering
University of Alberta
Department of Mechanical Engineering
University of Alberta
Edmonton, AB T6G 1H9
Canada

Phone Number +1 780 492 3609
Contact E-mail ajquresh@ualberta.ca