



Institute of Food and Agricultural Sciences
Agricultural and Biological Engineering Dept.

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Position: Post-Doctoral of Agricultural and Biological Engineering specialized in Artificial Intelligence, Machine Vision, and Embedded/Edge Processing for Robotics

Type: Contract annually renewed with 2 year minimum, extendable up to 5.

Location: University of Florida, Dept. Ag and Bio Engineering, Gainesville, FL

Application Deadline Date: Position open until filled; application review begins immediately.

Advertised salary: \$60,000 plus benefits.

Contact: Dr. Tom Burks tburks@ufl.edu

Description: The University of Florida Agricultural and Biological Engineering Department (<https://abe.ufl.edu/>) is looking for a motivated individual to join the Agricultural Robotics and Mechatronics Group as a Post-doctoral Researcher under the supervision of Dr. Tom Burks at the University of Florida (Department of Agricultural and Biological Engineering) in Gainesville, FL. The selected candidate will work primarily in the area of artificial intelligence (AI), embedded and edge computing for machine vision using visible, hyper-spectral, multi-spectral, and thermal imaging platforms applied towards automation, robotics (including UAVs), mechatronics, and precision farming technologies. Primary responsibilities include developing integrated hardware and software for embedded and edge AI systems for agricultural production and food safety applications. Daily responsibilities will include designing and implementing research studies, collecting and analyzing data, and assisting the engineering team in preparing research results for publication. The candidate will be expected to generate two or more publications per year. The postdoc will also participate in some teaching responsibilities that may include guest lecturing, developing topic modules for instruction, implementing AI-based programming assignments and validating results. Applicants should have excellent English verbal and written communication skills as demonstrated by published referred journal articles in relevant topics. The candidate should be available for a zoom interview to be scheduled as soon as possible after receipt of application package.

Qualifications: A Ph.D. in Agricultural, Mechanical, Electrical and Computer Engineering or closely related field (AI, robotics, IoT, machine vision). Self-motivated individual is preferred. Previous experience, academic background, and publications in areas such as artificial intelligence, embedded systems, machine vision, hyper-spectral imaging, robotics, autonomous

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systems, remote sensing, IoT, and precision farming technologies is preferred. Programming experience in machine vision and AI applications using OpenCV, Shallow Neural Networks, Deep Learning, RNN, SVM, SLAM, Supervised and un-supervised learning, K-means, and so on, using development tools in LabView, Matlab, Python, C++, C, TensorFlow and Scikit-Learn on various hardware platforms such as Nvidia Jetson, Raspberry PI 4, GPU enhanced edge processors and so on.

Background Information: The Agricultural and Biological Engineering Department is a unit in the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida that has diverse teaching, research and extension education programs. The Department is comprised of over 30 faculty members located on the Gainesville campus, 5 faculty located across the state at research and education centers, and 20 support personnel (see website <http://abe.ufl.edu>), and its programs consistently rank in the top 10 Agricultural and Biological Engineering programs nationwide. Instilling excellence in research, leadership, innovation, and entrepreneurship are ABE's highest priorities. At the University of Florida, the candidate will join a dynamic, cross-disciplinary group of researchers, and will enjoy broad opportunities for collaborations with existing teams.

The University of Florida (<http://www.ufl.edu>) is a Land-Grant, Sea-Grant, and Space-Grant institution, encompassing virtually all academic and professional disciplines, with an enrollment of more than 56,000 students. UF is a member of The Association of American Universities. The Institute of Food and Agricultural Sciences (<http://ifas.ufl.edu>) includes the College of Agricultural and Life Sciences (<http://cals.ufl.edu>), the Florida Agricultural Experiment Station (<http://research.ifas.ufl.edu>), the Florida Cooperative Extension Service (<http://extension.ifas.ufl.edu>), the College of Veterinary Medicine (<http://www.vetmed.ufl.edu>), the Florida Sea Grant program (<http://www.flseagrant.org/>), and encompasses 16 on-campus academic departments and schools, 12 Research and Educational Centers (REC) located throughout the state, 6 Research sites/demonstration units administered by RECs or academic departments, and Florida Cooperative Extension Service offices in all 67 counties (counties operate and maintain). The School of Natural Resources and Environment is an interdisciplinary unit housed in IFAS and managed by several colleges on campus. UF/IFAS employs nearly 4,500 people, which includes approximately 990 salaried faculty and 1,400 permanent support personnel located in Gainesville and throughout the state. IFAS, one of the nation's largest agricultural and natural resources research and education organizations, is administered by a Senior Vice President and four deans: the Dean of the College of Agricultural and Life Sciences, the Dean for Extension and Director of the Florida Cooperative Extension Service, the Dean for Research and Director of the Florida Agricultural Experiment Station, and the Dean for the College of Veterinary Medicine. UF/IFAS also engages in cooperative work with Florida A&M University in Tallahassee.

The University of Florida is building a campus wide AI program with both breadth and depth: The depth to produce top Ph.D.'s in AI technology and the breadth to infuse AI into UF's entire curriculum so that all students, graduate and undergraduate, regardless of their major, develop basic awareness and competence in how AI is transforming their future careers. To achieve this goal the University of Florida has committed to hiring 100 AI-focused faculty across the entire

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university. These faculty are being sought as members of interdisciplinary teams that span multiple colleges, where UF will leverage its existing expertise as well as new faculty to tackle some of society's most pressing challenges. These positions are made possible by the [UF AI Initiative](#) and a gift from NVIDIA that is establishing the most powerful supercomputer in U.S. Higher Education at the [University of Florida](#). The Post Doctorate working under this position will be involved in the synergies created by this initiative.

Employment Conditions

This position is available starting in *Fall 2021*, and will be filled as soon thereafter as an acceptable applicant is available. This position is a 12 month 100% FTE position with Post Doctorate benefits. The contract will be annually renewable with a minimum of two years assuming satisfactory performance, and extendable up to 5 years if funding is available and all parties are agreeable.

Application: The application package must include, 1) an application letter detailing candidate's qualifications and experience relative to the position description, 2) curriculum vitae, 3) list of publications with role played, 4) PDF of two relevant publications in English where candidate played major role, and unofficial transcripts, and 5) Two letters of recommendations from two professionals. **For questions, contact Dr. Burks at tburks@ufl.edu . Send the application package by email to this address with the subject line, "Applicant for Post Doctorate Position"**.

Selected candidate will be required to provide an official transcript to the hiring department upon hire. A transcript will not be considered "official" if a designation of "Issued to Student" is visible. Degrees earned from an education institution outside of the United States are required to be evaluated by a professional credentialing service provider approved by [National Association of Credential Evaluation Services \(NACES\)](#).

Hiring is contingent upon eligibility to work in the US. The University of Florida is a public institution and subject to all requirements under Florida Sunshine and Public Record laws.

The [University of Florida](#) is an Equal Opportunity Institution dedicated to building a broadly diverse and inclusive faculty and staff. The University and greater Gainesville community enjoy a diversity of cultural events, restaurants, year-round outdoor recreational activities, and social opportunities.