

## Graduate Research Assistant

The Tulane University Biodiversity Research Institute (TUBRI) is a research center of Tulane's School of Science and Engineering, located on the grounds of the F. Edward Hebert Research Center in Belle Chasse, Louisiana, a suburb of New Orleans. TUBRI houses the Royal D. Suttkus Fish Collection and specializes in biodiversity discovery (primarily fishes) and biodiversity informatics research. Henry L. Bart, Jr., Professor of Ecology and Evolutionary Biology serves as TUBRI Director and Yasin Bakış is Senior Manager of Biodiversity Informatics and Data Engineering for the center.

A Graduate Research Assistant is sought to support the research of the newly funded, NSF Harnessing the Data Revolution Institute project entitled, *Imageomics: A New Frontier of Biological Information Powered by Knowledge-Guided Machine Learning*. The project involves using Machine-Learning methods to train neural networks to extract phenotypic trait data from images of fish specimens, aided by a fish anatomy ontology and trees depicting phylogenetic relationships among tested fish species.

The successful candidate will actively participate in the research of the project under the mentorship of Bart and Bakış.

### Desired Knowledge, Skills, and Abilities

- Working knowledge of at least 2 of the following languages (one from each group)
  - {Java, C, C++, C#}, {Python, PHP, Perl}, {R, Bash, JavaScript}, {ORACLE SQL, MSSQL, PostgreSQL, MySQL}

### Required Education and/or Experience

- BSc in Biology, Computer Science, Information Sciences, or a related field
- Should commit to complete PhD study in Ecology and Evolutionary Biology (EEB) or Interdisciplinary EEB and Computer Science

### Preferred Qualifications

- MSc in Biology, Computer Science, Information Sciences or a related field
- Working knowledge of Unix based operating systems
- Prior experience in one of the following fields:
  - Image Processing, Artificial Intelligence, Genetic Algorithms, Biodiversity Informatics, Computational Biology, Bioinformatics, Biomedical Informatics, Ecoinformatics or a related field (publications)
- experience in Image Processing projects
- experience in Artificial Intelligence/Neural Networks projects
- experience in web-database applications
- experience in Genetic Algorithms

### Other requirement for the position

- Admission the Ph.D. program in Ecology and Evolutionary Biology at Tulane University
- The position is open to international candidates

- Should be able to travel internationally
- Strong communication and interpersonal skills

The project is in progress, and the position is available as early as January 2022. However, we are willing to delay the start until Summer or Fall 2022 for a qualified and highly motivated student.

For additional information, please contact Henry Bart ([hbartir@tulane.edu](mailto:hbartir@tulane.edu)) and Yasin Bakış ([ybakis@tulane.edu](mailto:ybakis@tulane.edu)).

Register for an account to apply here: <https://sse.tulane.edu/academics/graduate/admissions>