

Design Automation Renegades

GLOBETROTTING DIVISION

BIB_TE_X Analytics: For Automating Reference Management and Recognizing Emerging Trends

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A DOCUMENT ON *Python*-BASED BIB_TE_X ANALYTICS
For Reference Management ...
and Emerging Trend Recognition

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Abstract

This documents how the repository of the BibTeX *Analytics* project is organized, and its software architecture. It also describes the future goals of the project for using a data analytics approach to recognize emerging trends in research, especially emerging research trends in electrical and computer engineering, computer science, and other fields, such as medicine, agriculture, and environmental science.

Insert abstract here.

More stuff to be included.

Revision History

Revision History:

1. Version 0.1, May 21, 2018. Initial copy of the report.
- 2.

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Chapter 1

Organization of the BIBTEX Analytics Repository

The main deliverables of the BIBTEX *Analytics* project are a *Python*-based software to perform reference management, and data analytics on BIBTEX entries to recognize emerging research trends.

The organization of the BIBTEX *Analytics* repository is described as follows:

1. `automated_regression_testing.py`:
 - (a) *Python* script to automate regression testing.
2. `big_input`:
 - (a) Data set for stress testing the software deliverable of the BIBTEX *Analytics* project.
3. `database`
 - (a) `bibtex_database` (`bibtex_database.py`) class to represent a BIBTEX database of BIBTEX entries.
 - (b) `bibtex_database_test.py` is a *Python* script to test the functionality of the `bibtex_database` class.
 - (c) `entry` (`entry.py`) class to represent each (instance of a) BIBTEX entry.
 - (d) `entry_test.py` is a *Python* script to test the functionality of the `entry` class.
 - (e) `key_check.py` is a *Python* script to check if each BIBTEX entry is valid.
 - (f) `key_check_test.py` is a *Python* script to test the functionality of the *Python* script `key_check.py`.
 - (g) `key_frequency_pairs.py` is a *Python* script to demonstrate how to sort a set of 2-tuples based on its first/former field and its second/last/latter field.
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Chapter 2

Software Architecture of the BIB_TE_X Analytics Project

Software Architecture of the BIB_TE_X *Analytics* Project

Chapter 3

Future Work

Future work of the \LaTeX *Analytics* project is described as follows:

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8. Find emerging research trends to consider pivoting towards, or to get involved in side projects
 - (a) E.g., benchmark adiabatic quantum computers with topological computers and universal quantum computers [\[1\]](#).

Bibliography

- [1] Prateek Tandon, Stanley Lam, Ben Shih, Tanay Mehta, Alex Mitev, and Zhiyang Ong. Quantum Robotics: A Primer on Current Science and Future Perspectives, volume 10 of Synthesis Lectures on Quantum Computing. Morgan & Claypool Publishers, San Rafael, CA, January 2017.