



### **Front cover information**

Universitas Bhayangkara Surabaya (Ubhara) is a private tertiary institution in Surabaya belonging to the East Java Regional Brata Bhakti Foundation. Ubhara is on Jl. A. Yani 114, Surabaya, East Java. The current Rector of Ubhara is Brigadier General Pol. (Purn.) Drs. Edy Prawoto, SH., M. Hum. Ubhara was founded by East Java Regional Police officers on July 1, 1982, with four faculties: Faculty of Law, Faculty of Economics, Faculty of Social and Political Sciences, and Faculty of Engineering. The Faculty of Engineering manages two Departments, namely Electrical Engineering and Civil Engineering. In 2008 the Informatics Engineering Department was also established. Until now, Electrical Engineering and Civil Engineering achieved "B" accreditation, while Informatics Engineering achieved "C" from the first accreditation in 2012.

*Photo credit: Agustiyon Alfian on Landmark of Ubhara*  
*Cover ArtWork: Eko Prasetyo*

# Acknowledgement to Reviewers

---

The Editors gratefully acknowledge the assistance of the subsequent people who reviewed manuscripts for the Journal of Electrical Engineering and Computer Sciences, Volume 1 (2016)

Prof. Dr. Taufik  
*California Polytechnic State University, United States*

Dr. Surya Sumpeno, S.T., M.T.  
*Institut Teknologi Sepuluh Nopember, Indonesia*

Dr.Eng. Chastine Fatichah, S.Kom., M.Kom.  
*Institut Teknologi Sepuluh Nopember, Indonesia*

Daniel Oranova Siahaan, S.Kom., M.Kom., PEng.  
*Institut Teknologi Sepuluh Nopember, Indonesia*

Dr. Budhy Setiawan, B.SEET, M.T.  
*Politeknik Negeri Malang, Indonesia*

Dr. Ir. Era Purwanto, M.Eng.  
*Politeknik Elektronika Negeri Surabaya, Indonesia*

Dr. Yusron, S.T., M.T.  
*Politeknik Elektronika Negeri Surabaya, Indonesia*

Prof. Ir. Rukmi Sari Hartati, M.T., Phd.  
*Universitas Udayana, Indonesia*

Dr. Ir. Prihastono, M.T.  
*Universitas Bhayangkara Surabaya, Indonesia*

Dr. Bambang Purwahyudi, S.T., M.T.  
*Universitas Bhayangkara Surabaya, Indonesia*

Dr. Ir. Saidah, M.T.  
*Universitas Bhayangkara Surabaya, Indonesia*

# **Guideline for Author**

---

Journal of Electrical Engineering and Computer Sciences (JEECS) is a scientific journal that presents and updated scientific articles in the field of Electrical Engineering and Computer Sciences research among academics and practitioners alike, including power system, electrical engineering, industry automation, computer sciences, informatics, and information system.

Manuscripts submitted to JEECS should accomplish the following checklist:

- The submission has not been previously published, nor is it before another journal for consideration (or an explanation has been provided in Comments to the Editor).
- The submission file is in Microsoft Word document file format.
- Where available, URLs for the references have been provided.
- The text is single-spaced; uses a 12-point font; employs italics, rather than underlining (except with URL addresses); and all illustrations, figures, and tables are placed within the text at the appropriate points, rather than at the end.
- The text adheres to the stylistic and bibliographic requirements outlined in the Author Guidelines.

## **Journal Publication Policy**

Publication of articles in JEECS is dependent solely on scientific validity and coherence as judged by our editors and/or peer reviewers, who will also assess whether the writing is comprehensible and whether the work represents a useful contribution to the field. JEECS acknowledged the effort and suggestions made by its reviewers.

Journal of Electrical Engineering and Computer Sciences

ISSN : 2528 – 0260

**Secretariat**

Faculty of Engineering  
Universitas Bhayangkara Surabaya  
Jl. Ahmad Yani 114, Surabaya, Indonesia, 60231  
Telp. (031) 8285602

**Publisher**

Faculty of Engineering  
Universitas Bhayangkara Surabaya  
<https://ejournal.ubhara.ac.id/index.php/jeeecs>