

Bishnu Kumar Sharma

National Central University (Taiwan)

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1 Background

1.1 Education

- **Secondary school:** Hathausa Little Star English Boarding School, Kapilvastu, Nepal (School leaving Certificate SLC 86.867%)
- **Senior high school:** Rehdon College, Samakhushi, Kathmandu Nepal (Higher Secondary Education Board HSEB 75.90%)
Subjects: Physics, Mathematics, Biology, Chemistry
- **Undergraduate degree:** Tri-Chandra Multiple Campus, Tribhuvan University Nepal (2015-2019)
Physics, Mathematics, and Statistics (58.75%)
Thesis title: "**A Study of Dust Envelope around the White Dwarf 432+123 in IRAS Data**"
- **Master's degree :** National Central University, Taiwan (2021/2 to 2023/6)
GPA = 4.14 (86.78%)
School of Science, Graduate Institute of Astronomy
Thesis title: "**Study CMD of Globular Clusters using Gaia DR3 data and classify them according to their morphology using Machine learning**"

2 Coursework

2.1 Undergraduate

- **Physics** (Mechanics, Heat & Thermodynamics, Optics, Electricity & magnetism, Modern Physics, Electronics, Quantum Mechanics, Nuclear & Solid state physics, etc)
- **Mathematics** (Calculus, Analytical geometry & Vector, Algebra I & II, Mathematical Analysis I and II, Discrete Mathematics)
- **Statistics** (Fundamental of Statistics, Probability and Inference I)
- Research Methodology
- Space Science, Econo-physics and etc.

2.2 Graduate

- Observational Astronomy, Astrophysics of Galaxy, Stellar Evolution (I & II), Cosmology, Transient, Interstellar Medium

2.3 Online courses

- Audit CS231 from Stanford University on YouTube
- Audit Intro to Deep Learning with PyTorch (Udacity)
- Audit CS50's Introduction to Programming with Python

3 Skills and Experiences

- Worked as Senior High School Science and Mathematics **Teacher** at Mahendra Rastriya Secondary School, Baluwatar, Kathmandu (2017-2020)
- **Data analysis:** During my Undergraduate, I analyzed IRAS data to study Dust envelopes around White Dwarf
- **Data analysis:** During my Graduate School, I analyzed Gaia EDR3 and DR3 data of Globular clusters using Pandas and NumPy
- **Machine learning:** I used Machine learning and Computer vision to classify images into different groups on the basis of their morphology using TensorFlow and Keras.
- **Programming:** Python, SciPy, NumPy, Pandas, Matplotlib, Machine learning, JavaScripts
- **Tools:** L^AT_EX, Microsoft Office, Origin, GNU/Emacs, Sublime text, Linux/Ubuntu, Binder, TensorFlow, Keras, Sci-kit learn, HTML/CSS, SQL

4 Conferences

- ZTF summer school, 2021, California Institute of Technology, USA
- Star, Planets, and Formosa, 2022 (NCTS, Taipei)
- Poster presentation at Astronomical Society of the Republic of China (ASROC-2022) at National Chung Cheng University "**Study and classify globular clusters based on color-magnitude diagram morphology using Gaia EDR3**".
- Poster presentation at Taiwan Physical Society (TPS-2023) at National Cheng Kung University "**Classify galactic globular clusters based on a color-magnitude diagram using an unsupervised machine learning**".
- Poster presentation at Astronomical Society of the Republic of China (ASROC-2023) at National Sun Yat-sen University "**Classify and study Milky Way Globular Cluster system based on color-magnitude diagram morphology using machine learning**".

5 Honors, Awards, and Scholarships

- Kapilvastu district 3rd on SLC 2012 (Grade 10/ Junior High School)
- International Student Scholarship, National Central University (Fully-funded) for Master's degree

- **The Graduate Institute of Astronomy Academic Excellence Award (Price NT 10,000) in 2022.**

6 Employment

- Mathematics and Science teacher for Senior High School at Mahendra Rastriya Secondary School, Baluwatar (Kathmandu).
From 4/14/2017 to 03/01/2020 A.D.
- Electronic Engineer at Academia Sinica Institute of Astronomy and Astrophysics (ASIAA)
Joined 2023/11/01

7 Language

- **Nepali** (Mother tongue)
- **Hindi** (Fluent)
- **English** (Fluent)
- **Mandarin** (Basic)

8 Contacts

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- **Linked In :** <https://www.linkedin.com/in/bishnu-kumar-sharma-26a324109/>
- **Website:** <https://bishnus350.github.io/>
- **GitHub:** <https://github.com/Bishnus350>
- **Contact Information:** Banganga Municipality, Ward Number 11, Kapilvastu, Lumbini Province, Nepal

9 References

- **Professor Chow-Choong Ngeow** (cngeow@astro.ncu.edu.tw)
Time-Domain and Astro-Informatics Laboratory
Graduate Institute of Astronomy, National Central University, (Taiwan)
Master's Thesis Advisor