Gyanendra Shrestha

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RESEARCH AREAS

- **Data Management:** Large-scale Data Management, Data Fusion, Information Extraction (IE)
- **Artificial Intelligence (AI):** Large Language Models (LLMs), Deep Learning, Machine Learning

EDUCATION

- **Florida State University** *Jan 2021 - Present*
  Computer Science Tallahassee, FL, USA
  ◦ GPA: 3.975/4.00

- **Tribhuvan University** *Dec 2016*
  BE in Electronics and Communication Engineering Kathmandu, Nepal
  ◦ Grade: 76.09%

EXPERIENCE

- **Department of Computer Science, Florida State University** *May 2021 - Present*
  Graduate Research Assistant Tallahassee, FL, USA
  ◦ Contributed to the development of machine learning and deep learning models for tabular data understanding, focusing on improving table search and enabling data fusion
  ◦ Gained hands-on experience with **LLMs** (GPT series, LLaMA, Mistral), **Retrieval-Augmented Generation (RAG)** strategies, **vector databases**, and **Word2Vec** and **BERT** NLP embedding models.
  ◦ Published research in top-tier conferences such as **EDBT** and **IEEE ICDE**.

- **Tekvortex Pvt. Ltd.** *Jun 2020 - Dec 2020*
  Software Engineer Lalitpur, Nepal
  ◦ Developed backend (Python) modules for cloud migration assessment service
  ◦ Fixed multiple production issues/bugs, reducing customer support tickets by 30% through collaborating with the Support Team

- **E&T Nepal Pvt. Ltd.** *Jan 2018 - Feb 2020*
  Software Engineer Bhaktapur, Nepal
  ◦ Developed backend (C++) for automated 3D model recognition software
  ◦ Relocated on-site to Japan (Core Concept Technologies Inc.) for 3 months to work closely with clients, accelerating project completion by 10% through direct collaboration and iterative feedback

PROJECTS

- **CancerKG** *May 2023 - Present*
  Big Lab, Department of Computer Science, Florida State University [🌐]
  ◦ Web-scale, trustworthy Knowledge Graph using embedding models on Cancer learned from millions of Web sources. The project is currently in progress.

- **Cloudchomp** *Jun 2020 - Dec 2020*
  Tekvortex Pvt. Ltd [🌐]
  ◦ An analytics tool to assist organizations in making data-driven decisions regarding the migration of resources from local private servers to AWS cloud.

- **Feature recognition of CAD data** *Jan 2018 - Feb 2020*
  E&T Nepal Pvt. Ltd [🌐]
  ◦ Automated 3D model recognition software for leading manufacturing industry in Japan. Collaborated with an expert team of Japan and Nepal to design software based on C++ using ACIS and spatial libraries from Spatial. The software's objectives included recognizing geometrical shapes, identifying parts in CAD data of pins, measuring their attributes (e.g.,dimensions), and extracting text information using OCR (Tesseract, Leptonica).

- **Real Time Person Identification and Location Detection using Face Recognition** *Jan 2015 - Dec 2016*
  Undergraduate Major Project [⚙]
  ◦ Used Open CV library for image processing. Trained Haar Cascade Classifier for face detection and implemented PCA-LDA algorithm for face recognition.

[C.1] **Gyanendra Shrestha**, Chutian Jiang, Sai Akula, Vivek Yannam, Anna Pyayt, Michael Gubanov, "Tabular Embeddings for Generally Structured Tables with Bi-Dimensional Hierarchical Metadata and Nesting", in EDBT 2025, CORE A ranked.

[C.2] Bhim Kandibedala*, **Gyanendra Shrestha***, Anna Pyayt, Michael Gubanov, "Scalable Tabular Hierarchical Metadata Classification in Heterogeneous Structured Largescale Datasets using Contrastive Learning", 12 pages, to appear in ICDE, 2025; ICDE is rated A+ by CORE rankings portal and is listed at csrankings.org (*co-first authors).

[S.1] **Gyanendra Shrestha**, Anna Pyayt, Todor Ivanov, Michael Gubanov, "LLM-based Complex Structured Data Fusion".

[S.2] **Gyanendra Shrestha**, Anna Pyayt, Michael Gubanov, "Num2Vec - Embeddings for Complex Numerical Data Preserving Unit and Variable Semantics".

[S.3] Sai Ganesh Akula, Chutian Jiang, **Gyanendra Shrestha** , Anna Pyayt, Todor Ivanov, Michael Gubanov, "LLM-based Information Extraction in Document Data Lakes".

SKILLS

- **Languages/Database:** Python, C++, C, JavaScript, MySQL, MongoDB, AWS Athena
- **Libraries and Tools:** PyTorch, TensorFlow, Sklearn, Git
- **Cloud Technologies:** Amazon Web Services (AWS), Apache Spark

HONORS AND AWARDS

- **Nominated for Outstanding Teaching Assistant Award (OTAA)** *2023-2024*
  Center for the Advancement of Teaching, Florida State University
- **Full Academic Scholarship for B.E.** *Jan 2013*
  Ministry of General Affairs, Nepal

TEACHING EXPERIENCE

- **Graduate Teaching Assistant** *Aug 2021 - May 2024*
  Department of Computer Science, Florida State University
  ○ Graduate Teaching Assistant for courses including Unix Tools (COP4342), Operating Systems (COP4610), Introduction to Data Science (CAP5768), and Advanced Data Science (CAP5769)
  ○ Assisted in class to foster discussions and motivated students to ask questions
  ○ Created additional optional assignments and led practice sessions
  ○ Made sure the learning environment was inclusive, that everyone has the same opportunities to learn, ask questions and treated fairly and equally

LEADERSHIP EXPERIENCE

- **President** *Aug 2022 - Aug 2023*
  Nepalese Student Association at Florida State University
  ○ Organized sports events, welcome programs, and cultural celebrations to promote community engagement
  ○ Provided guidance to prospective Nepalese students and assisted newly arrived students with their adjustment to life in Tallahassee

- **Core Member** *Jun 2014 - Dec 2016*
  Robotics and Automation Center, Thapathali Campus
  ○ Conducted training and workshop focusing on basic robotics and technology
  ○ Led a team to participate in Techfest 2015–2016 at IIT Bombay, India, and reached the final round of the *International Robotic Challenge*
  ○ Led a team to participate in KSHITIJ 2015 at IIT Kharagpur, India, and secured 2nd position in the event *Minefield*

ADDITIONAL INFORMATION

Languages: English (Proficient), Nepali (Native)
Interests: Reading, Soccer, Traveling