

Vishal Pallagani

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Education

University of South Carolina

Columbia, SC

Doctor of Philosophy, Computer Science

Jan 2021–Present

Coursework: Artificial Intelligence, Automated Planning, Reinforcement Learning, Trusted AI

International Institute of Information Technology

Naya Raipur, Chhattisgarh, India

Bachelor in Technology, Computer Science

Aug 2016 - May 2020

Coursework: Data Structures/Algorithms, Data Science, Artificial Intelligence, Discrete Math, Statistics/Probability

Experience

Research Scientist Intern

Yorktown Heights, NY

IBM Thomas J. Watson Research Center

May 2022–Aug 2022

- proposed Plansformer, a large language model fine-tuned on planning problems capable of generating valid and shortest symbolic plans.

Graduate Research Assistant

Columbia, SC

Artificial Intelligence Institute, University of South Carolina

Jan 2021–Present

- Working in the intersection of Automated Planning and Language Models to achieve generalisable problem solving approaches.

Research Affiliate

Columbia, SC

Artificial Intelligence Institute, University of South Carolina

Jan 2020–June 2020

- Developed a knowledge-infused textual entailment framework for medical question-answering language models.
- Collected approximately 4B tweets about COVID-19 and gauged the spatio-temporal psychological impact (Mental Health, Addiction, and Gender-Based Violence) that pandemic had on people.

Projects

Multi-Modal Decision Support System for Cooking Domain

Jun 2021–Present

- Building a better recipe representation to facilitate machine-readable cooking instructions.
- Building decision-support tools that help in fault tolerant cooking, handle allergy based substitutions, and the relevance between multiple modalities (image and text).

Fast and Slow AI using Planning



Nov 2021–Jan 2022

- Worked on realising a meta-cognitive approach (Fast and Slow thinking) in artificial intelligence using planning techniques.
- Built an S1 planner for saving and retrieving plans based on the user's current state.

Publications

- **Pallagani, Vishal**, Biplav Srivastava, and Sparsh Agrawal. *PRUDENT-A Generic Dialog Agent for Information Retrieval That Can Flexibly Mix Automated Planning and Reinforcement Learning* In ICAPS Demo Track (2021).
- Yadav, Shweta, **Vishal Pallagani**, and Amit Sheth. *Medical Knowledge-enriched Textual Entailment Framework* In Proceedings of the 28th International Conference on Computational Linguistics 2020
- Singh, Himanshu, **Vishal Pallagani**, Vedant Khandelwal, and U. Venkanna. *IoT based smart home automation system using sensor node* In 2018 4th International Conference on Recent Advances in Information Technology (RAIT), pp. 1-5. IEEE, 2018.
- Udalapally, Venkanna, Saraju P. Mohanty, **Vishal Pallagani**, and Vedant Khandelwal. *scrop: A novel device for sustainable automatic disease prediction, crop selection, and irrigation in internet-of-agro-things for smart agriculture* IEEE Sensors Journal (2020).

Skills

-  **Proficient:** Python (Pandas, NumPy, scikit-learn), PDDL, C, SQL, Machine Learning, PyTorch, TensorFlow, Trusted AI (IBM AIX 360, IBM AIF 360, Protodash)
-  **Novice:** Ionic, Android Studio, Typescript, Spark, MATLAB