LAVANAY THAKRAL

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EDUCATION

BITS Pilani, Goa Campus   *August 2016 - June 2021*
Masters in Science, Physics
(7.72/10)

BITS Pilani, Goa Campus   *August 2016 - June 2021*
Bachelor of Engineering, Computer Science
(7.72/10)

SKILLS

Programming Languages	C++,Python,Matlab,SQL
Software & Tools	Langchain, Git, JupyterLab

RESEARCH PUBLICATIONS

[1] Pat Pataranutaporn et al. "Living Memories: AI-Generated Characters as Digital Mementos." In: *Proceedings of the 28th International Conference on Intelligent User Interfaces*. IUI '23. Sydney, NSW, Australia: Association for Computing Machinery, 2023, pp. 889–901. ISBN: 9798400701061. DOI: [10.1145/3581641.3584065](https://doi.org/10.1145/3581641.3584065). [link].

WORK EXPERIENCE

Morgan Stanley Capital International, Mumbai   July 2021-current
Associate, Research - Equity, Private Equity, Real Assets   *Tech: Python, NLP, LLM, Langchain*

- Utilized LLMs such as **GPT-3.5, GPT-4**, and various **BERT** variants to develop a system capable of identifying companies engaged in **private equity** investments through analysis of their business descriptions.

- Utilized LLMs, including **GPT-3.5, GPT-4**, and various **BERT** variants, to discern megatrends within raw news data. Further developed a strategic methodology to perform megatrend rotation.

- Key contributor in the development of the Index validation system, covering the entire spectrum of MSCI's indices.

- Designed and implemented a user-friendly **Streamlit** dashboard for analyzing various financial keywords (e.g., inflation, ESG, recession) using a newspaper dataset.

- Researched on, built ground up and back tested new **alphas** to build **equity indexes**. Performed Optimization through **BarraOne optimizer** and other open-source libraries like cvxpy

- Worked on projects in multiple domains including **thematic rotation, momentum based strategies, inflation-sensitivity** etc.

Blue Jeans by Verizon, Bangalore   Jan 2021-Jun 2021
Software development intern   *Tech : C,C++,Git,Agile*

- Worked as a member of the Fiber Team, responsible for the development and maintenance of the **media SDK** situated between the application and server layers. Tasked with managing audio, video, and content media streams transported as **RTP packets** for the BlueJeans video conferencing app.

- Engaged in an agile development team, focused on the development and maintenance of the fiber code base, necessitating a comprehensive understanding of **network protocols**.My primary responsibilities included capturing and advancing **reICE** scenarios.

MIT Media Lab, USA August 2020 - Dec 2021

Visiting research student (**undergraduate thesis**) *Tech : Python,Flask,Google Colab*

- Developed a pipeline utilizing large-scale pre-trained transformer models, including **GPT2** and **BERT** to assess the system's ability to impersonate and improvise on a person's characteristics based on their autobiography.

- Incorporated a GAN-based **WAV2Lip** model to build the **MVP**.

- Built a dynamic **Flask** webapp to demonstrate the concept.

- A concise Colab Notebook for the project is accessible [link]

MathWorks, Bangalore May 2020 - August 2020

Software Development Intern *Tech : Matlab, Simulink*

- Worked as a part of the **Simulink Design Verifier** team at Bangalore.

- The project was to build components to display the most important simulation data effectively on the Simulink canvas.

- Developed a spreadsheet component in Matlab using **OOP** principle, and enabled multiple features like **sorting, filtering, sheet to canvas mapping** etc.