Chittaranjan Velambur Rajan

Data Scientist | Amazon | chittaranjan19.github.io

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Work Experience

- **Amazon Music** — Seattle, Washington
  Data Scientist (L5) — *June 2023 - Present*
  - **Genre Embeddings**: Devised a patent-pending algorithm to create embedding representations of genres, that improved recommendations to drive an increase of 10.4M listening hours annualized
  - **Audio to Text**: Finetuned a text decoder model to generate natural language descriptions conditioned on the audio representation of a track.

  Data Science Intern — *May 2022 - Aug 2022*
  - **Segmentation**: Define and build customer segments to aid in better breakdown of A/B experiment results. Customers were segmented based on their levels of engagement with the app
- **Nasdaq** — Bangalore, Karnataka
  Software Developer Specialist (New Markets Financial Framework) — *Nov 2019 - July 2021*
  - **Blockchain**: Integrated trading solutions with a ledger to facilitate real-time settlements

  Senior Software Developer (New Markets Financial Framework) — *July 2018 - Nov 2019*
  - **Trading Solutions**: Built a marketplace for a healthcare client, to enable trade of patient health data

Education

- **University of Michigan** — Ann Arbor, Michigan
  M.S. in Applied Statistics; GPA: 3.95/4.0 — *Aug. 2021 – May. 2023*
  Statistical Learning, Data Science with Python, Probability Dist. Theory, NLP, Data Viz
- **PES University** — Bangalore, Karnataka
  B.Tech in Computer Science; GPA: 9.08/10.0 — *Aug. 2014 – May. 2018*
  Data Analytics, Machine Learning, Cloud Computing, Design Patterns

Tools and Technologies

- **Languages**: Python, R, Java, Javascript, C/C++ **Technologies**: AWS, Docker, Kubernetes, Git
- **Libraries**: Pandas, Tensorflow, Numpy, SkLearn, PyTorch, HuggingFace **Frameworks**: Java Spring, React

Projects

- **AI Based Musical Assistant for Pianists**: [CNN, N-Grams, MIDI APIs, source]
  - **Prototype**: Leveraged rules from music theory and ML models to improve self-efficacy in novice pianists
- **Analysis of trends in Competitive Coding**: [EDA, Visualization, Web-Scraping, source]
  - **Analysis**: Explored whether problem solving skills (in competitive coding) are an acquired or developed trait
- **Determine complexity of coding problem**: [LSTM, Neural Networks, source]
  - **Objective**: Used ML/DL to determine the complexity of a competitive coding problem, given a text prompt of the question (Accuracy: 60% for 3-way classification)
- **Query-able Indexes for Zoom meetings**: [AWS Lambda, Transcribe, S3, API Gateway]
  - **Hackathon**: Made Zoom meetings searchable for information presented in the recording
- **Witty Reddit Bot**: [HuggingFace, PyTorch, OpenPrompt, source]
  - **Course Project**: Fine-tuned a T5 LLM to reply to Reddit posts with sarcasm and wit