

Vishal Kalakonnar

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EDUCATION

University of Massachusetts Amherst | Amherst, MA | GPA: 3.57 09/2018-05/2022

- B.S. Informatics (Data Science Track) & B.A. Computational Linguistics; Minor in Mathematics
- Member of the Commonwealth Honors College & Koplik Scholarship recipient
- **Relevant Coursework:** Data Structures, Statistics, Reasoning Under Uncertainty, Computational Linguistics, Programming Methodology, Linear Algebra, Multivariate Calculus, App. of Natural Language Processing, Web Programming, Intro to Data Science, Intro to Machine Learning, Practice and App. of Data Management, Intro to Computation; (Fall 2021): Human Computer Interaction, Adv. Natural Language Processing

Experience

Software Engineer Intern | Publicis Sapient | Boston, MA 06/2021 - 08/2021

- Developed a chatbot for the Verizon SMB page in order to increase profit margin by reducing reliance on human representatives and increasing user transaction rate by streamlining website information
- Designed and diagramed the flows of functional (scheduling appointment/service, purchasing/updating plans) and non-functional (error/exception handling) use cases
- Utilized a full stack approach of frontend (**React.js, HTML, CSS**) and backend (**Java SpringBoot, DialogFlow, MySQL/Cloud SQL**) tools as well as internal and external APIs (**Google Calendar, DialogFlow**)
- Deployed chatbot using **App Engine** on **GCP**, built for future scalability

NLP Researcher | UMass NLP/NGRAM Lab | Amherst, MA 08/2021 - Present

- Improving pre trained **RoBERTa**-based retriever algorithm that outputs a selected quote from a dataset of various literary canon, with each quote being independent of each other (no current contextualization)
- Researching various language models to help in preprocessing before feeding data into the retriever model
- Contextualizing sentence candidates to improve retriever performance (accuracy)

Undergraduate Research Assistant | Intelligent Sensing Lab | Amherst, MA 08/2020 - 05/2021

- Built software for robot to detect and pick up objects and move them to desired locations
- Used Python GUI packages to display changes in servo angle for increased user intuitivity
- Utilized Python-based math packages (**Numpy** and **Pandas**) and robot packages (**Dynamixel SDK**) implementations to fine-tune the robot to the desired specifications and actions
- Demoed robot's ability to pick up oblong objects and move said objects with high precision

Selected Projects

Kalenteri - Student Life Manager Feb 2021 - May 2021

- Co-developed an online web application to allow students to track health, grades, and scheduling
- Implemented a backend (**Node.js**) database system (**Postgresql**) to store the health, grades, schedule for a student, accessible by the user from the frontend (**HTML, CSS, Node.js/JS**) using internal API calls
- Utilizing external API calls from *FullCalendar API* and *Google Fit API* allows the user to have a user friendly calendar UI and dynamically updating data from a *Google Fit* compatible smart device

Stock Market Forecasting Using Financial Report Sentiment Sept 2020 - Dec 2020

- Co-developed a **Sci-kit Learn** reg. model to predict stock movement based on financial report sentiment
- Created a dataset using financial articles that we tagged with having 'Financial positive' or 'Financial Negative' sentiment and split the dataset into a 'training' dataset and 'test' dataset
- Implemented the model to rate a selected stock using a prediction aggregate from the inputted 'training dataset', allowing a user to differentiate between better stock buys/sells with an 80% accuracy rate

Skills

Programming Languages: Python, Java, Javascript, Node.js, SQL, HTML, CSS, R, C

Technical Skills: Git, Google Cloud, SpringBoot, Postgresql, MySQL, Linux, NLTK, DialogFlow, Jira, Confluence