

Manishkumar Alagumalai

930-333-4114 | maalag@iu.edu | [linkedin.com/in/manish-chhetry](https://www.linkedin.com/in/manish-chhetry)

EDUCATION

Indiana University Bloomington, Indiana

Expected May 2025

Masters of Science in Intelligent Systems Engineering

GPA: 3.89/4

Course Work | *Software Engineering, Applied Machine Learning, Deep Learning Systems, Graph Analytics, Visual Analytics, NLP*

WORK EXPERIENCE

Presidio

Apr 2019 – May 2023

Senior Software Engineer

India

TRON - TRansformative Automation of Network | *React, Fast API, Airflow DAG, Docker*

- Spearheaded the development of a web application enabling **Disney** to efficiently manage resources and control network access permissions, **reducing manual work by 80% and significantly improving overall operational efficiency**
- Created over **10 REST APIs** responsible for generating various **Airflow Pipelines**, ensuring proper task execution, which led to a **45% reduction in network errors** and improved response times by **2 seconds**

AVA - Autodesk's Virtual Assistant | *React, Spring Boot, AWS, IBM Watson*

- Leveraged **IBM Watson** and NLP techniques to develop a virtual assistant chatbot, ensuring users received accurate responses with an accuracy rate of **95%**
- Implemented a web application utilizing **React Flow**, incorporating over **8 drag-and-drop UI components** to facilitate custom **virtual assistant conversation flow paths**
- Achieved **Bronze standard certification** for the application by adhering to proper **software development standards**, reducing vulnerabilities, and ensuring over **86% overall test coverage**

SBSD - Small Business and Subscriber Diversity | *Angular, Node JS, Spring Boot, IBM DB2, AWS*

- Developed over **20 critical features** and managed a web application responsible for **registering small businesses** in the state of Virginia
- Led a team of **5 members** to ensure the proper migration of the application from **Angular 1** to the latest version by adhering to established **migration standards**
- Integrated 20 APIs with a Splunk endpoint across DEV, QA, and Prod, enhancing log tracking and reducing application downtime by **90%**

PROJECTS

BMS | *Next JS, Python, Fast API, MySQL*

- Built more than **10 critical features** like Secure Login, Email services, Chat support, and Stripe payment gateway backed up by proper unit test cases to ensure **error reduction by 40%**
- Implemented RESTful APIs to streamline key features, including seat bookings and payments, **improving overall user experience and system reliability by 70%**

Smart Jira/Outlook Assistant | *Angular, Python, Chime, SageMaker*

- Developed a scalable infrastructure using Lambda and SageMaker to process over 1 million text sentences daily, **improving efficiency by 60%**.
- Designed 7 Rest APIs to translate audio transcripts and store files in an S3 bucket ensuring immediate retrieval of data by reducing the read time by **1 - 2 seconds**
- Implemented a feature to integrate the application with Outlook calendar to automatically create events based on classification output scores, leading to a **84% reduction in missed deadlines and meetings**

IAB Taxonomy Ad Classification | *Python, LLM, NLP, Transformer, Pytorch, Tensorflow, Sklearn, Scipy*

- Developed and deployed over 5 web scraping scripts to extract content and metadata from **240+ websites**, transforming raw data into a structured dataset of **32,450 records** for training and testing purposes
- Utilized a large English NLP model from the SciPy package to train on extracted content, implementing rule-based imputation to fill missing information across **23,200 fields**
- Trained a BERT model with softmax layer to predict the top five Tier 1 labels for an Ad content, **achieving 79% accuracy**. Utilized these predictions to further train models for Tier 2 and Tier 3 label classification

SKILLS

Programming Languages: Java, Javascript, TypeScript, Python, C, C++, HTML, CSS, Golang

Frameworks/libraries: React JS, Angular JS, Next JS, Vue JS, Node JS, Express JS, Fast API, Flask, Spring Boot, AWS Serverless, AWS CDK, IBM Watson, Rasa, Jest Testing, Jasmine

Tools: Git, Figma, Adobe XD, Docker, Jenkins, Nginx, Apache tomcat, Splunk, Terraform

Databases/Query Manipulation: MySQL, PostgreSQL, IBM DB2, MongoDB, AWS DynamoDB, GraphQL, Neo4j

Cloud Services: GCP, AWS

AI/ ML: Tensorflow, Keras, Pytorch, Scipy, Sklearn, Nilearn, LLM, Transformers