Joseph A. Chandler

32 Hereford St, Boston, MA 02115 | jchand@mit.edu | 317-767-9205

EDUCATION

Massachusetts Institute of Technology | Cambridge, MA — August 2020 - May 2024 (Exp.)
Candidate for a Bachelor of Science in Computer Science and Engineering
- **GPA**: 5.0/5.0, unweighted
- **Relevant Coursework***:* Fundamentals of Programming, Introduction to Machine Learning, Discrete Math, Intro Algorithms, Probability and Random Variables, Linear Algebra, Macroeconomics, Microeconomics

Culver Academies | Culver, IN — August 2016 – June 2020
- **Test Scores***:* ACT (36), SAT (1550) | National AP Scholar with Distinction (Scored a 5 on 7 AP Exams) | SAT Math II: 750/800
- **Achievements***:* Batten Scholarship, Cum Laude Society, Blue Key Society, Indiana Academic All-State (XC/TF)

WORK EXPERIENCE

MIT Engineering Systems Laboratory | Cambridge, MA — September 2021 - Present
Undergraduate Researcher
- Currently researching applications of dynamic graph neural networks (DGNNs) for predicting traffic flow and traffic collisions.
- Designing and implementing new temporal and spatial network architectures based off previous research to publish in the future.
- Building machine learning pipelines to train neural networks and compare test benchmarks between models on different datasets.

Combined Curiosity | Indianapolis, IN — June 2020 – August 2021
Software Engineering Intern
- Designed and built a full-stack app using React and JavaScript to assist marketers in handling incoming requests to landing pages. Currently in a testing environment, the app will help drive conversion rates while also increasing the marketing team's productivity.
- Developed several other microservices for ingesting and processing data that increased the engineering team's efficiency by over 20%.
- Implemented an analytics solution for visualizing internal data stored in a data warehouse such as sales numbers and experiment performance that helped drive ad revenue by hundreds of thousands of dollars while also guiding company planning and initiatives.

Peerview Data | Indianapolis, IN — June 2021 - August 2021
Software Engineering/RPA Intern
- Created a tool for ingesting financial data to power data visualization and increase productivity by automating the upload process.
- Redesigned the app's data processing and storage flow which dramatically increased live app performance by over 85%.

analytic.li | Indianapolis, IN — June 2019 - August 2019
Robotic Process Automation Intern
- Developed an automation program using Robotic Process Automation (RPA) to create reports from a web page for the company's analytics software which helped customers visualize their payroll and employee performance metrics and drive overall revenue.
- Authored a 30-page documentation guiding the use of RPA software for employees and interns to use for automation projects.

Projects

Dynamic Graph Neural Network Research | *Python, PyTorch, NumPy, pandas, Matplotlib, Cartopy* — September 2021 – Present
- Working with an advisor in the Engineering Systems Laboratory to research new applications of dynamic graph neural networks.
- Implementing PyTorch models and using NumPy and pandas to explore new datasets and research applications in the emerging field.
- Presenting work and research to the advising board and collaborating with other team members to publish research and discoveries.

Request Router | *React, Node.js, PostgreSQL, ReactFlow* — June 2021 – August 2021
- Created a frontend UI using React and ReactFlow that allows the marketing team to create a routing ruleset using nodes connections.
- Integrated a backend architecture in Node.js to parse ruleset data into the PostgreSQL database and handle user authentication.
- Deployed the application into a quality assurance environment for testing on routing users in the browser from advertisement clicks.

Company Analytics Dashboard | Python, Airflow, PostgreSQL, Metabase — June 2020 – December 2020
- Implemented an open-source project (Metabase) to create analytics dashboards to visualize data and make marketing decisions.
- Used PostgreSQL to write queries to power the visualizations and pre-aggregate data for better dashboard performance and loading.
- Supplemented data collection with ETL tools using Python scripts to download, parse, and load data into the data warehouse.

SKILLS AND INTERESTS

Software and Programming: Python | JavaScript | TypeScript | HTML | CSS | C++
Frameworks/Libraries: React | Node.js | Flask | PyTorch | PostgreSQL | NumPy | pandas
Soft Skills: Leadership | Team Management | Project Management | Public Speaking | Communication | Organization
Leadership: Varsity Cross Country and Track and Field (Academic All-Conference Team) | Sloan Business Club | Chi Phi Fraternity
Interests: Music Production | Piano | Saxophone | Boy Scouts (Eagle Scout)