Arka Pal

San Francisco, CA | <u>Personal Portfolio</u> | <u>LinkedIn</u> | <u>GitHub</u> | <u>Email</u>

EDUCATION

University of California Santa Cruz   Sept 2022 – June 2023
Masters of Science in Computer Science and Engineering   ***GPA:*** *4.0*
- **Relevant Coursework:** Artificial Intelligence, Compilers, Advanced Operating Systems, CPS Security

University of California Santa Cruz   Sept 2019 – June 2022
Bachelor of Science in Computer Science   ***GPA:*** *3.97*
- **University Honors:** Summa Cum Laude
- **Relevant Coursework:** Machine Learning, Distributed Systems, Software Engineering

PROJECTS

Wave-Styled (Javascript, SQL, Python) (<u>Link</u>)   Software Developer/SCRUM Master
- Worked with a team of 5 developers to develop an iOS app that recommends outfits to users based on their personalized wardrobe
- Developed the user interfaces of the app by leveraging React-Native, utilizing its capabilities to render 75% of the app components.
- Enhanced the responsiveness of the swiping feature, significantly reducing the processing time by 10%.

Conceptual Analyzer (Python) (<u>Link</u>)
- Developed a Conceptual Analyzer, an advanced natural language interpreter that semantically parses diverse languages and extracts conceptual dependencies.
- Contributed to the field of explainable AI by spearheading the conversion of the original Common Lisp implementation of the Conceptual Analyzer, developed by Larry Birnbaum, into Python.
- Conducted an extensive literature review on seminal research focused on conceptual dependencies, providing insights into the intricacies of extracting and representing conceptual relationships within natural language.

Bitcoin Price Prediction (Python) (<u>Link</u>)
- Developed an RNN model to forecast bitcoin prices/trends based on historical data spanning from 2014 to 2021
- Cleaned and scaled BTC price data sourced from Yahoo Finance using Pandas and MinMaxScaler
- Implemented multiple GRU layers and fine-tuned the model's timesteps to achieve a low mean-square loss of 0.0014

EXPERIENCE

Teaching Assistant   Jan 2023 – June 2023
University of California, Santa Cruz   *Santa Cruz, CA*
- Worked with a team of tutors and TAs to run a Data Structures and Algorithms class for 350 students
- Taught core data structure concepts and debugging techniques to strengthen students' programming skills (C/C++)
- Hosted 2 discussion sections per week and graded students' exams and programming assignments, working 20 hours per week
- Facilitated proctored exams and addressed students' inquiries

Course Tutor and Reader   Sept 2021 – Dec 2022
University of California, Santa Cruz   *Santa Cruz, CA*
- Tutored for Data Structures and graded assignments for Database Systems, Computational Models, and Introduction to Python
- Worked with a team of tutors and TAs to run courses ranging from 120-350 students
- Evaluated and provided detailed feedback on 120 student assignments per week
- Improved course structure for future offerings by curating biweekly reports highlighting common misconceptions of course content

SKILLS

Languages: Python, Java, C, C++, Javascript, SQL,
Technologies: TensorFlow, NumPy, Pandas, Scikit-learn, React/React-Native, Node, Express, Flask, PostgreSQL, Docker