

# Arka Pal

San Francisco, CA | [Personal Portfolio](#) | [LinkedIn](#) | [GitHub](#) | [Email](#)

## EDUCATION

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- 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 with Highest Honors, Minor in Statistics* **GPA: 3.97**  
• **University Honors:** Summa Cum Laude  
• **Relevant Coursework:** Machine Learning, Distributed Systems, Software Engineering

## EXPERIENCE

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- Graduate Student Researcher** June 2023 - Present  
*University of California, Santa Cruz* *Santa Cruz, CA*  
• Conducting research under the guidance of Professor Leilani Gilpin to develop DANGER, a framework aimed at creating a photo-realistic dataset derived from authentic driving scenarios.  
• Demonstrate expertise in identifying and extracting relevant vehicles from images and videos  
• Leverage cutting-edge AI tools, such as NERF, to produce highly realistic driving scenes.
- 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  
• Evaluated and provided detailed feedback on 120-350 student assignments per week  
• Improved course structure by curating biweekly reports highlighting common misconceptions of course content

## PROJECTS

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- Wave-Styled** (Javascript, SQL, Python) ( [Link](#) ) Software Developer/SCRUM Master  
• Developed an iOS app in a team of 5 that recommends outfits to users based on their personalized wardrobe  
• Designed a neural network model that learns about a user's style preferences.  
• Utilized React-Native to render 75% of the app's user interface components.  
• Enhanced the responsiveness of the swiping feature, significantly reducing the processing time by 10%.
- Conceptual Analyzer** (Python) ( [Link](#) )  
• Developed a Conceptual Analyzer, an advanced natural language interpreter that semantically parses diverse languages and extracts conceptual dependencies, contributing to the field of explainable AI.  
• Converted the Common Lisp implementation of Larry Birnbaum's Conceptual Analyzer 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.
- Stock Price Prediction** (Python) ( [Link](#) )  
• Developed an RNN model to forecast stock 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 GRU layers and fine-tuned the model's timesteps to achieve a low mean-square loss of 0.0014

## SKILLS

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