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JACOB OPATZ
Software Developer

EDUCATION

B.S IN COMPUTER SCIENCE, MINOR IN MATHEMATICS   **Aug 2021 - May 2025**
San Diego State University   *San Diego, CA*

RELEVANT COURSES: Software Engineering, Software Architecture, Neural Networks, Machine Learning, Systems Programming, Wireless Networks, Advanced Programming Languages, Computer Architecture, Operating Systems, Algorithms, Data Structures, Linear Algebra, Discrete Mathematics, Calculus I-III

UNIVERSITY PROJECTS

COMPUTER VISION: TRAINING MODELS FOR COLLISION DETECTION RESEARCH   **Dec 2024**
- Collaborated on training and optimization of YOLO and RT-DETR models using data from SDSU's S.T.A.R. Lab, supporting research efforts to reduce vehicle collisions through neural network-based collision detection and data analysis.

SOFTWARE ENGINEERING: PATIENT RECORD MANAGEMENT SYSTEM   **Dec 2024**
- Led development of a full-stack Django web-app for hospital staff to manage appointments, records, and lab/pharmacy orders.

IOT & FULL-STACK DEVELOPMENT: PERSONAL INACTIVITY MONITORING SYSTEM   **May 2025**
- Led a team in developing a Raspberry Pi-based system that used computer vision to detect prolonged bed usage during waking hours, transmitting activity data to a custom web dashboard via a Flask backend and React frontend, empowering users to monitor daily rest habits.

SKILLS

LANGUAGES: Python, Java, C/C++, JavaScript, SQL, Bash
WEB: HTML/CSS, React.js, Flask, Django, REST APIs
BACKEND & DB: MySQL, SQLAlchemy, Routing, Normalization
TOOLS: Git, GitHub, Linux/Unix, VSCode, IntelliJ, Eclipse

CS Concepts: DSA, OOP, Systems Programming, OS, Networking
AI/ML: NumPy, PyTorch, TensorFlow, OpenCV, Jupyter
Embedded: Systems Programming, Raspberry Pi, GPIO/12C
Soft Skills: Leadership, Teamwork, Communication, Planning

RELEVANT EXPERIENCE

PRESIDENT   **May 2024 - May 2025**
SDSU SoundWave   *San Diego, CA*

- Directed a nationally ranked competitive A Cappella team
- Partnered with executive board to develop growth initiatives, enhance performance quality, and strengthen team dynamics
- Orchestrated comprehensive event planning, from venue selection to performance logistics

SHIFT LEAD
Border Foods   **Oct 2020 - Aug 2024**
          Fergus Falls, MN

- Led daily shift operations, including a team of 5-7 employees
- Resolved customer complaints, maintaining high company standards
- Managed employee conflicts, fostering a collaborative work environment