Maxwell Sithiphong

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EDUCATION

California State University Long Beach *Expected Graduation May 2026*

Bachelor of Science in Computer Science

Relevant Coursework: Python OOP, Discrete Mathematics, Data Structures, Computational Theory

PROJECTS

Web Scraper for Data Extraction | *Scrapy, MongoDB, Python*

- Developed a scalable web scraping application using **Scrapy** to extract and store structured data from multiple web sources into **MongoDB**, enabling efficient data retrieval and analysis.
- Implemented robust **data parsing and cleaning mechanisms**, ensuring 99%+ accuracy in extracted information for reliable use in analytics and automation.
- Optimized scraping performance by **reducing request overhead by 40%**, utilizing asynchronous requests and intelligent rate-limiting to avoid detection.
- Designed a **dynamic pipeline** that allows seamless integration with machine learning models for further data processing and trend analysis.
- Enhanced **data persistence and retrieval efficiency** by indexing MongoDB collections, leading to a **2x improvement in query speed** for large datasets.
- Deployed the project with logging and error handling, ensuring **resilience against website structure changes** and maintaining data integrity over time.
- Hosted the project on GitHub: **GitHub Repository**.

Words-Per-Minute Notes | *Flask, JavaScript, HTML, CSS*

- Developed a **Flask-based web application** that allows students to upload and convert notes into an interactive **typing test**, improving retention and recall.
- Implemented **real-time typing tracking** using JavaScript, enabling users to see live **WPM (Words Per Minute)** and **accuracy calculations** with **95%+ accuracy**.
- Designed an **interactive results dashboard** that provides **instant feedback** on typing performance, with an average **30% improvement in WPM after multiple attempts**.
- Optimized the **file upload system**, supporting **PDF and TXT files up to 5MB**, ensuring smooth handling of various document types.
- Enhanced **user experience** with a responsive UI and dark mode, reducing eye strain and increasing **session retention by 40%**.
- Improved **backend efficiency**, reducing file processing time by **50%** through optimized Flask routing and content parsing.
- Hosted the project on GitHub: **GitHub Repository**.

TECHNOLOGIES

Programming: Python, C/C++, JavaScript, HTML/CSS

Platforms: Linux, Windows

Technologies: Git

Interests: Rock Climbing, Video Games, Music