

# LUKE THILGEN

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## PROFESSIONAL SUMMARY

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Detail-oriented and adaptable Computer Science graduate with a strong foundation in back-end development, embedded systems concepts, and technical communication. Led cloud-based architecture and real-time backend operations for a student platform using AWS and MongoDB. Currently developing NeuroLearn, an educational Python project that integrates 3D modeling and interactivity. Experienced in Linux-based development, troubleshooting, and cross-functional collaboration. Strong verbal and written communication skills, with a strong interest in firmware systems, performance optimization, and streaming technologies.

## EDUCATION

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### San Francisco State University

*Bachelor's, Computer Science*

- San Francisco State University – B.S. Computer Science, Dec 2024)

## PROFESSIONAL EXPERIENCE

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### StudentConnect

*Back-End Lead*

**San Francisco, CA, USA**

*January 2024 - May 2024*

- Led the back-end development team in designing and implementing the server-side architecture for the "StudentConnect" platform, enhancing real-time communication and student collaboration.
- Operated in a Linux-based development environment, using Git version control and collaborative workflows.
- Integrated AWS services (EC2, Lambda, S3) with MongoDB to optimize cloud performance and storage.
- Developed RESTful API endpoints using Node.js and Express.js to handle user authentication, data management, and secure front and backend interactions.
- Collaborated with front-end and product teams to ensure aligned and user-centric backend functionality
- Served as a bridge between back-end implementation and front-end integration teams to align product requirements with engineering decisions.
- Translated back-end analytics and user activity metrics into actionable product decisions during sprint reviews.

## PROJECTS & OUTSIDE EXPERIENCE

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### NeuroLearn - [Link to project](#)

*Main Programmer*

**Oakland, CA, USA**

*November 2024 - Present*

- Currently building a Python-based interactive platform designed to teach brain anatomy through 3D modeling and simulation.
- Project goal: to allow users to rotate, zoom, and explore brain regions with color-coded visual cues and learn about associated functions.
- So far, implemented interactive model loading and successful coloring of individual lobes using Plotly and Trimesh.
- The project is ongoing and demonstrates strong initiative, self-learning, and the integration of AI and visualization tools for educational purposes.

## SKILLS

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**Programming Languages:** Python, Java, HTML/CSS, JavaScript, C/C++, R, SQL, TypeScript

**Cloud & Infrastructure:** AWS (EC2, S3, Lambda), Google Cloud Platform, SaaS (ServiceNow, Snowflake), Terraform

**Databases:** MongoDB, MySQL

**Analytics & Productivity:** Tableau, Excel, Spark, Data Visualization, Business Analytics

**Dev Tools:** Git, GitHub, VSCode, PyCharm, Google Colab, Linux/Unix, CI/CD

**Video & Platform Technologies:** HLS, DASH (familiar), Embedded Systems (Introductory Exposure)