

# Lucas A. Summers

+1 530-305-4032 | [lucas.summers.dev@gmail.com](mailto:lucas.summers.dev@gmail.com) | [lucas-summers.github.io/](https://lucas-summers.github.io/) | [linkedin.com/in/lucas-a-summers/](https://linkedin.com/in/lucas-a-summers/)

## EDUCATION

### California Polytechnic University

*Bachelor of Science in Computer Science, Concentration in AI/ML*

San Luis Obispo, CA

Sep. 2022 – June 2026

### Placer High School

*High School Diploma*

Auburn, CA

Aug. 2018 – May 2022

## EXPERIENCE

### Software Engineering Intern

*BMC Software*

June 2025 – Sep. 2025

*Santa Clara, CA*

- Developed a dynamic LangChain toolkit for BMC's HelixGPT assistant service that auto-generates CRUD tools by building table schemas via the ServiceNow API, enabling the agent to interact with ServiceNow instances for the user without manual, per-table tool configuration
- Built intelligent tool caching architecture and confirmation management system to optimize toolkit building performance and safely handle destructive operations through user confirmation workflows
- Created an LLM-powered QA test script generation system that uses JIRA tickets to auto-generate and execute Python test scripts for API endpoints and UI components, incorporating user feedback for iterative improvement
- Implemented a local Retrieval Augmented Generation (RAG) system for multiple file formats using ChromaDB vector database and Ollama generated embeddings to improve context retrieval of API/UI documentation

### Engineering Intern

*West Biofuels*

June 2024 – Sep. 2024

*Woodland, CA*

- Assisted in conducting research for multiple government grants on innovative biomass systems focused on production of various fuels and other high-value chemical products
- Utilized LabVIEW software to troubleshoot and interface with various hardware controllers and sensors over the network, optimizing the fluidized bed gasifier's control and monitoring systems
- Performed varied tasks in the research center, including equipment maintenance, part assembly, and general operational support to ensure progress of various projects

## PROJECTS

### 2048 AI Game Solver | *Python, Flask, NumPy, PyTorch, JavaScript, HTML/CSS*

April 2025 – June 2025

- Implemented multiple AI agents for the 2048 game, including Greedy, Expectimax, Monte Carlo Tree Search (MCTS), Reinforcement Learning (DQN), and various hybrid approaches
- Designed and tuned advanced heuristics, rollout strategies, and deep Q-learning models to optimize performance and maximize achieved tile scores
- Built a Flask-based web interface with real-time visualization, interactive play, and algorithm selection for user experimentation

### PokéGAN | *Python, PyTorch, Numpy, Matplotlib, Google Colab, Jupyter Notebook*

Sep. 2025 – Dec. 2020

- Designed and trained a Deep Convolutional Generative Adversarial Network (DCGAN) from scratch using PyTorch to generate original 64×64 Pokémon-style sprites, implementing self-attention mechanisms and spectral normalization to improve image quality and training stability
- Engineered a complete deep learning pipeline with custom data loaders, augmentation strategies, early stopping, and comprehensive evaluation using metrics such as Fréchet Inception Distance (FID)
- Optimized model performance through systematic hyperparameter tuning and regularization techniques (label smoothing, dropout, gradient clipping), deploying training infrastructure on Google Colab with GPU acceleration and TensorBoard monitoring

## SKILLS

**Languages:** Python, C/C++, SQL, Java, JavaScript/Typescript, HTML/CSS, R, Racket, Lisp, Bash, LaTeX

**Frameworks:** React, Node.js, Next.js, Flask, FastAPI, Ollama, Tailwind CSS

**Developer Tools:** Git, GitHub, Jira, Docker, VS Code, Vim, Google Colab, Jupyter Notebook

**Libraries:** Pandas, NumPy, Matplotlib, SciPy, NLTK, Scikit Learn, PyTorch, LangChain, LangGraph