

# Aarya Gadekar

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## EDUCATION

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### The International School Bangalore

*IB Diploma*

- Physics - Higher Level: 7/7
- Computer Science - Higher Level: 7/7
- Mathematics (Analysis and Approaches) - Higher Level: 6/7

Bangalore, KA, IN

*Aug. 2020 – May 2022*

### University of Wisconsin-Madison

*Bachelor of Science in Computer Science*

Madison, WI, USA

*Aug. 2023 – Ongoing*

## WORK EXPERIENCE

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### Large Language Models and Software Engineering

Jan 2023 – May 2023

*Caesar Labs (Now Julius.ai)*

*Remote - Fulltime*

- Optimized and deployed OpenAI's GPT-3 and Meta's LLaMa using Parameter Efficient fine-tuning (PEFT) on user-generated data, achieving greater token-efficiency and reducing operational costs.
- Engineered *prompt chains* into OpenAI's GPT-3, augmenting its functionality to incorporate external knowledge and enable function invocation.
- Developed a full stack React and Node.js-based web interface to integrate LLMs into *Zapier-esque* productivity suites using drag-and-drop components.

## PROJECTS

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### AutoRegex.xyz | *Node.js, React.js, PostgreSQL, GPT-3*

July 2022 – *present*

- Created AutoRegex, a full stack web application utilizing OpenAI's GPT-3 for seamless English-to-Regex translation.
- Implemented advanced vertical and horizontal server scaling techniques to support a rapid user growth to 150,000 DAUs within one month.
- Incorporated Stripe for revenue streams via a subscription-based model, achieving \$200 in Monthly Recurring Revenue (later made completely free).

### BlenderGPT | *Python, Node.js*

March 2023 – *present*

- Developed and open-sourced BlenderGPT, an extension that generates Blender-compatible Python code from natural language via a Language Model.
- Curated custom dataset and fine-tuned OpenAI's GPT-3 LLM to generate Blender compatible code with high proficiency at a lower cost per token.
- Developed robust backend infrastructure for a Pro version, featuring key provisioning and rate limiting systems; licensed 200 copies and garnered 3.9K+ stars on GitHub

### Superdub.co | *Next.js, Node.js, Python, PyTorch*

April 2023

- Engineered Superdub.co, a web application that allowed musicians to *dub* their vocals in the manner of popular artists using the *so-vits-svc* vocal synthesis framework.
- Curated audio datasets, conducted training, and optimised models for realistic wav-to-wav audio conversion.
- Implemented dynamic queuing and allocation of inference jobs on GPU-enabled servers on AWS and Lambda Cloud, auto-scaled by application usage.
- Forced to shut down after legal compliance notice concerning fair use of AI from Universal Music, Los Angeles.

## TECHNICAL SKILLS

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**Languages:** Python, JavaScript, C, C++, SQL, Java, HTML, CSS, Swift

**Frameworks:** React, Next, Node.js, Flask, Django

**Developer Tools:** Git, Docker, Linux, Bash, Vim, VS Code, Weights & Biases, Google Cloud Platform, AWS, Vercel

**Libraries:** NumPy, PyTorch, Pandas, Matplotlib, scikit-learn, OpenCV