ABHINAV SACHDEVA

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EDUCATION

The Pennsylvania State University   **Aug 2023 – May 2025**
M.S. in Computer Science & Engineering   *GPA: 3.75 / 4.00*

Jamia Millia Islamia   **Aug. 2019 – May 2023**
B.Tech in Electronics & Communication   *GPA: 3.85 / 4.00*
- Ranked 1st out of 82 students | University Merit Scholarship Recipient

EXPERIENCE

Graduate Assistant   **May 2024 – Present**
The Pennsylvania State University   *State College, PA*
- Mentored **40+ students** in Python programming, improving course retention by **20%** through office hours & code reviews.
- Designed **100+ coding exercises**, adopted by **400+ students** as practice material.
- Graded **500+ assignments** with **99% accuracy rate**, recognized for actionable feedback.

Front-End Intern   **Mar 2022 – May 2022**
1stop.ai   *Remote*
- Engineered a full-stack job portal leveraging **PHP, SQL & Bootstrap**, enabling **100+ employers** to post jobs & candidates to apply.
- Secured user data via **SQL-based authentication**, ensuring the privacy of both employers and candidates.

Intern   **Dec 2021 – Feb 2021**
Microsoft - Future Ready Talent   *Remote*
- Deployed **"Food for All"**, a responsive, donation platform using **HTML, JavaScript, jQuery, CSS**, leveraging **Azure** to host the platform.
- Integrated Stripe, using their API, to facilitate & streamline donation transactions for users.

Front-End Intern   **Nov 2021 – Dec 2021**
HCL   *Remote*
- Developed a user-friendly survey interface using **HTML, CSS, JavaScript** for a company-wide employee interest survey boosting employee satisfaction by **15%**.

PROJECTS

Spotified | *Typescript, NodeJS, Jest*
- Created an **open source**, lightweight strongly typed Spotify Web API SDK for **Browser and Node.js**, with **1k+ monthly NPM downloads**, adopted by **100+ developers**.
- Leveraged **Jest** and latest AI services to write unit tests maintaining **98% test coverage**.

Image Caption Generator | *Python, TensorFlow, Keras, CNN*
- Engineered an Image Caption Generator model, based on the "Show, Attend and Tell" paper, utilizing **TensorFlow and Keras** to experiment with different **CNN's** (image feature extractors) models.
- Achieved a **1.87%** increase in BLEU scores after 20 epochs of training on 30k images, with potential for further improvements through more epochs and a larger dataset.

Nano-GPT | *Python, PyTorch, Transformer, LLM*
- Trained and fine-tuned GPT model on **5,500 lines** of Robert Frost's poetry to generate stylistically coherent text leveraging **PyTorch and Jupyter Notebook**.

Movie Recommendation Engine | *Python, Pandas, NumPy, SciKit, Flask*
- Built a movie recommendation engine leveraging **collaborative filtering** (matrix factorization), trained on **32M user ratings** from MovieLens. Deployed via Flask for scalable API access, demonstrating end-to-end ML systems design and **large-scale data mining**

CERTIFICATIONS

- Front-End Developer Professional Certificate – Meta
- Getting Started with Accelerated Computing in CUDA C/C++ - Nvidia
- Prompt Engineering – Deep Learning AI
- Python Core – Sololearn

TECHNICAL SKILLS

Languages: Python, SQL, C/ C++, JavaScript, TypeScript, HTML/CSS
Tools: Azure, CUDA, TensorBoard, Nsight, Docker
Technologies/Frameworks: Pytorch, NumPy, TensorFlow, Pandas, ReactJS, Linux, Jenkins, GitHub, Flask, Jest