Omkar Acharya

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EDUCATION

University of California, Berkeley **Graduation Date: May 2023**
Masters of Engineering, Materials Science and Engineering - CGPA: 3.72/4
Relevant Coursework: Thin Film Deposition, Materials Characterization, Advanced Spectrometry, and Survey of Materials.

Amity University Uttar Pradesh **Graduation Date: June 2021**
Bachelors of Technology, Nuclear Science and Technology - CGPA: 8.46/10
Relevant Coursework: Engineering Thermodynamics, Engineering Mechanics, Engineering Materials, Mechanics of Materials, Fundamentals of Heat and Mass Transfer, Gas Turbines and Jet Propulsion

PROFESSIONAL EXPERIENCE

Outlier **Oct 2024 - Present**
AI Domain Expert **Remote**

- Conducted fine-tuning of multimodal AI models by curating and annotating high-quality datasets tailored to specific use cases.
- Designed and implemented high-quality prompts for testing multimodal AI models, including Image-to-Text, Text-to-Text, and Audio-to-Text systems.
- Ensured consistent alignment with ethical guidelines and user-centered design principles while evaluating AI model outputs.
- Tested AI models across diverse domains, including pattern recognition, problem-solving, summarization, comprehension, and question answering, to assess performance and accuracy.

Microsoft **Oct 2023 - Jul 2024**
Consultant **Sunnyvale, CA**

- Collaborated with cross-functional teams to develop custom AI models, enhancing predictive analytics accuracy by 40%.
- Identified key metrics for ML/AI impact on business performance with Snowflake, dbt and Airflow resulting in a 20% improvement in decision-making processes.
- Implemented and optimized algorithms within PowerBi to analyze customer behavior and market trends, improving forecasting accuracy by 15%.
- Designed and developed a new data pipeline architecture with Terraform and Docker, enhancing scalability by 30% and facilitating seamless integration with Microsoft Fabric.

University of California, Berkeley **Jan 2024 - June 2024**
Reader **Berkeley, CA**

ISF 100D Introduction to Technology, Culture and Society
Prof. Rakesh Bhandari

- Led a highly interactive learning environment, and ensuring all students contributed to the class dialogue on the books like Power and Progress: Our Thousand Year Struggle over Technology and Prosperity by Acemoglu and Johnson, As Gods by Matthew Cobb, A Citizen's Guide to Artificial Intelligence by John Zerilli, Foragers, Farmers, and Fossil Fuels by Ian Morris, Mark Maslin, Simon Lewis.

SKILLS & INTERESTS

Programming Languages: Python, MATLAB, Javascript, Typescript, GNU Octave
Cloud Platforms: AWS, GCP, Azure
Tools: Power BI, SSMS, Azure Synapse Analytics, NumPy, Pandas, PyTorch, Git, Azure DevOps, Snowflake, DBT, SQL, ETL Pipelines, Data Modeling, Data Pipelines, Microsoft Fabric, Canva
Lab Skills: XRD, Raman Spectroscopy, Oscilloscopes, EXANES, XRD, AFM, TRIM/SRIM

RESEARCH EXPERIENCE

Accelerating Therapeutics for Opportunities in Medicine (ATOM) **Aug 2023 - May 2024**
Project Management Intern **Berkeley, CA**

Building machine learning models to improve prediction of blood brain barrier permeability by identifying efflux transporter substrates and inhibitors.
Guide: Dr. Amanda Paulson

- Developed and trained machine learning models using Python, Pytorch and Deepchem, significantly aiding anti-cancer medication research.
- Coordinated a team of engineers to curate data from research datasets and fine-tune hyperparameters of ML models, ensuring timely and efficient project completion.
- Leveraged data analysis tools such as NumPy, Pandas, and PyTorch in Python to analyze large datasets, improving the accuracy of ML models.
- Applied Model-in-the-loop (MIL) testing to develop and implement ML models, enhancing predictive model precision and reliability

Inter University Accelerator Centre (IUAC) **Jan 2021 - June 2021**
Research Intern **New Delhi, India**

Studies on Radiation Damage in Structural Material of Nuclear Reactors
Guide: Prof. D K Awasthi, Dr. Parswajit Kalita

- Investigated the effects of radiation on Cubic Zirconia by irradiating samples with 80 MeV Ag6+ ions at various fluences.
- Applied Williamson-Hall and Scherrer Methods to analyze XRD data and establish a trend between ion flux and grain size.
- Employed extrapolation using OriginPro to quantify microstructural changes, contributing to a deeper understanding of material behavior under irradiation.
- Developed strong public speaking skills, ensuring clarity, coherence, and engagement during presentations, which contributed to successful dissemination of research outcomes.

Saha Institute of Nuclear Physics (SINP) **May 2019 - August 2019**
Student Intern **Kolkata, India**

Characterization of Silicon Photomultiplier (SiPM)
Guide: Prof. Maitreyee Saha Sarkar

- Measured and analyzed the dark count rate of SiPMs to assess noise performance.
- Evaluated SiPM signal output through staircase and wave trace analysis to understand signal behavior.
- Performed Pulse Shape Discrimination (PSD) plotting to differentiate between different types of signals using GNU Octave.
- Conducted temperature-dependent tests on silicon photomultipliers using convective cooling using Liquid Nitrogen.

CERTIFICATIONS

- **WINS Certified: Certified Nuclear Security Professional (CNSP)**
  - **Certification number: 02076**
- **Microsoft Certified: Azure Data Fundamentals**
  - **Certification number: BFF373-S25B7F**
- **Microsoft Certified: Azure AI Fundamentals**
  - **Certification number: 34A4EB-CF86J0**

CO-CURRICULAR ACTIVITIES

- Workshop training on Nuclear Security Design Vulnerability Assessment, by Centre for Nuclear Security Science and Policy Initiative (NSSPI), Oak Ridge National Lab (ORNL), and Defense Threat Reduction Agency (DTRA) | (Jan - Feb 2019).
- Workshop on Personnel Radiality Programme in Nuclear Safety and Security, Pandit Deendayal Petroleum University (PDPU) at Gandhinagar, Gujarat, NSSPI and CRDF Global | May 2018