

Omkar Pathak

<https://omk42.xyz> | pathak.omkar@gmail.com | +1 (714) 402-9048 | Seattle, WA

EDUCATION

University of California, Irvine | September 2016- June 2020

Bachelor of Science, Computer Science and Engineering and Statistics, GPA 3.912

EXPERIENCE

Amazon Web Services, Seattle, WA | *Senior Software Development Engineer* | December 2020- Present

- Founding member of a hardware digitalization team orchestrating repair work for 7k technicians in 25 data centers.
- Shipped a recycling workflow for hard drives in the same DC zone resulting in consolidation of 1055 racks, savings of \$110M in CapEx, \$30M in OpEx and reduction of 18,119kW in power and cooling demands in 2023.
- Bootstrapped an EC2 micro-service for processing compatible parts in 2 US Government Cloud sites with 99.8% availability.
- Implemented heuristics to improve part allocations by 15%. Developed a data-driven feedback loop on 370k unsuccessful repairs to close automation gaps. Both contributions helped surpass a VP goal of 90% repairs with a first-pass-resolution.

Google, Mountain View, CA | *Software Engineer, Tools and Infrastructure Intern* | June 2019- September 2019

- Google Cloud Platform setup to generate and evaluate encoded videos for Google Nest testing devices.
- Reduced test durations by 95% by configuring Borg to score encoded videos and store test results asynchronously.
- Incorporated ML based perceptual encoding and analyzed videos on VMAF, PSNR and SSIM metrics.
- Built and tested an end to end data pipeline to export video scores from BigQuery to Plx using Python scripts.
- Created Plx BI assets for identifying encoder quality regression and comparing camera devices, builds and configurations.

Bentley Systems, Inc., Anaheim, CA | *Software Development Intern* | June 2018- September 2018

- Part of a core development team for Design Insights, a cloud service for structural engineering data analysis.
- Created embedded dashboards in Power BI by connecting to Azure SQL data source and prototyped a pipeline for data transfer from Azure Cosmos DB to Data Lake to Azure SQL with Azure Data Factory.
- Reorganized version comparison web pages in Angular 2 for advanced visualization of Structural Performance Indicators.

Computational Vision Lab, UCI | *Information and Computer Science (ICS) Honors Student Researcher* | April 2019- June 2020

- Extracted features by training a ConvNet, created clusters of frequently occurring patterns with the apriori algorithm, generated depth maps and synthesized a first-of-its-kind dataset of shoe outsole tread. Published an honor thesis.

Artificial Intelligence at UCI | *Lead Mentor* | September 2019- June 2020

- Executive board member who led a group of 7 mentors. Organized 20+ AI workshops in a year and hosted 3 panel discussions with industry and academia leaders. Club's success story published in ICS Donald Bren School's article and magazine.

Versys | *Lead Developer* | January 2024- Present

- Leading an SSI solution for employee background verifications using plugin-based Veramo agents. System uses Wallet Connect provider and web3-KMS to interact with non-custodial Verifiable Credentials.
- Beta testers have successfully created 50+ did:ethr and did:keys, and processed 100+ SDRs on the web application

PROJECTS

Smart Water System, UCI | *Undergraduate Research Opportunity Program (UROP) Fellow* | April 2017- June 2019

- Researched a data-driven irrigation system using environmental sensors and a Raspberry Pi. Implemented a Boosted Decision Tree algorithm in Azure Machine Learning Studio for efficient water management.

Meerkets.com | *Solo contributor* | August 2024- Present

- Researched process gaps for first time and minority homebuyers. Built a NextJs search engine on Vercel powered by DynamoDB for homebuyers to find local realtors and compare services and commission. Published blogs for awareness.

PasteOnEth, www.pasteoneth.com | *Blockchain developer* | July 2023- Present

- Independently created a DApp to host code snippets on Ethereum compatible chains, featuring Metamask wallet integration.
- Pastes are OpenZeppelin ERC1967Proxy behind a UUPSUpgradeable smart contract implementation.
- Successfully deployed on Sepolia testnet with 10+ active and pseudonymous users as of May 2024.

CloudStation, UCI | *Scholar and Software Developer* | September 2019- April 2020

- Worked on an open sourced, cloud-based Ground Control System that received world record for piloting a drone from 11,440 miles away. Co-authored and published a research paper in the IEEE Journal on Miniaturization for Air and Space Systems.

Digital Waste Bins, Engineers for a Sustainable World, UCI | *Software Developer* | April 2017- December 2017

- Displayed estimated carbon footprints of trash entering waste bins. Partnered with UCI Hospitality and Dining to install 5+ bins across campus and received a full funding of \$10,000 from Pepsi Co.

SKILLS

AI/ML- Python, LangChain, GPT, NumPy, SciPy, Matplotlib, ggplot2, R

Languages/Tools- C++, C#, JS, TS, Java, Node, Express, React, NextJs, Shadcn, HTML, CSS, SQL, Git