Josh Kenn Viray

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Education

UNIVERSITY OF SANTO TOMAS   August 2022 - Present
BS Computer Science, specializing in Data Science
Relevant Coursework:
UST Benavides Outstanding Achievement Award 2025
Class President (1st Term and 2nd Term of AY 2022-2023)

Amazon Web Services re/Start Graduate   July 2024 - October 2024
AWS re/Start Scholar (PHMAN25)
AWS Certified Cloud Practitioner

UNIVERSITY OF SANTO TOMAS   August 2020 - June 2022
Senior High School
Relevant Coursework: Graduated with Honors
Class President (1st and 2nd term of AY 2020-2021)

Olivarez College   June 2018 - May 2020
Junior High School
Relevant Coursework: Graduated with High Academic Distinctions,
Hon. Cong. Eric L. Olivarez Award of Academic Excellence Recipient
Philippine Normal University (PNU) Regional Interschool Science
and Mathematics Olympiad (PRISMO) 2019 - Top 30
PSAP-ALAM Science Investigatory Project 1st Runner-Up
PSAP-ALAM Best Presentor
Class President (AY 2019-2020)

Faith Christian School   June 2016 - May 2017
Junior High School
Relevant Coursework: MathScore Competition - Bronze Medalist

Formal Work Experience

AlertoPh - Philippines   February 2025 - Present
AI Intern
- Developed innovative geospatial models integrating agentic AI calls to optimize emergency response strategies.
- Engineered efficient AI workflows and scalable event-driven architectures to streamline model deployment.
- Designed, implemented, and rigorously tested production-grade API endpoints to ensure high reliability and seamless integration.

Sip & Scale Manila   February 2025 - Present
City Lead
- Spearheads initiatives that empower local startups by organizing events and collaborative projects designed through curated dinners to foster innovation and drive growth.
- Facilitate partnerships between industry experts, government agencies, and startup founders, ensuring that emerging businesses receive the guidance and resources needed to scale effectively.
- Responsible for strategic planning and community engagement, creating a dynamic and sustainable ecosystem supporting the evolution of Manila's entrepreneurial landscape.

ClashBytes by UPMKR   September 2024 - Present
Founder and Chief Executive Officer
- Led the development of the ClashBytes application, which was created during the iThink and Hooked Unitour Hackathons.
- Drives the application for grants and fosters partnerships with community organizations to support the platform's growth.
- Currently leading the incubation program at the Tomasino Innovation Center (TIC) at the University of Santo Tomas, where we are continuously advancing the platform.

Quantum Society of the Philippines - Philippines   July 2024 - November 2024
Operations and Analytics Quantum Education Fellow
- Creating workflows for social media platforms to enhance engagement and reach with substantial viewership from all major social media outlets.
- Assisted in pivoting from major business decisions based on the analytics collected from social media platforms.
- Aided in the task management software used by the organization to ensure strict adherence to deadlines by automating reminders from Google Sheets using Python scripts.

Realme - BGC, Taguig   June 2024 - August 2024
Data Management Intern (Sales and Operations)
- **Efficiently validated sales data from Regional Sales Officers (RSO)** using Excel and K3 by BroadPeak to query normalized data and downstream the data for reference.
- Handled regional sales and managed **90% of the total credit card credit memos in the Philippines**, with a 95% accuracy rate during a fast turnover period.
- Used the ETL (Extract, Transform, Load) processes, ensuring accurate and efficient data handling, then cross-referenced localized regional data with centralized datasets to maintain data integrity and consistency.
- I employed data scripting and query languages to extract necessary fields for thorough transaction validation, optimizing data validation processes, and migrating validated regional data to the central database.

Perfumity LLC. - New Jersey, U.S.A.   December 2023 - March 2024
Web Development Intern
- **Managed the maintenance and debugging** of live product websites featuring a catalog of over 200+ products.

- My role involved front-end development using Tailwind CSS and back-end work using PHP, SQL, and JavaScript.
- Conducted back-end development with PHP, SQL, and JavaScript, ensuring robust and efficient data management.
- Also created and presented mockups and wireframes for future site renovation designs via Figma for future site renovations.

Projects and Competitions

SeeBlue: Microplastic Detection Application   Apr 2025
National Innovation Day's FLIP HABI
- Conceptualized an innovative AI-powered application to detect and monitor microplastics in water bodies using YOLOv8 for real-time computer vision and machine learning algorithms for data analysis.
- Designed a floating detection device to assist fishermen and government agencies in tracking microplastic pollution, enhancing environmental monitoring efforts.
- Combined hardware and software solutions to provide scalable, efficient, and accessible microplastic detection for sustainable water conservation.

Forecasting U.S. Crop Yields Using Machine Learning and Time-Series Analysis   Feb 2025
Data Science Project | SAS, Python, Pandas, Scikit-Learn, and Seaborn
- Employed time-series forecasting (using Prophet) and machine learning techniques (such as Decision Trees and Gradient Boosting) using historical USDA crop yield data to identify trends and predict future yields.
- Our analysis achieved an R^2 of 0.82 and revealed significant regional variations as well as the impact of climate variability on agricultural productivity.
- Submitted and accepted to the SAS Curiosity Cup 2025 as part of the 112 papers submitted from 29 different countries, and won 22nd place.

ReBiCoM: Recursive Bias Correction Model for MSEs' Credit Worthiness   Dec 2024
Machine Learning Model | Python, Pandas, Scikit-Learn, and Seaborn
- An integrated approach leveraging Subgroup Threshold Optimization (STO) and Lorenz Curve Analysis (LCA) to enhance the accuracy and fairness of credit assessments for MSEs.
- Uses classical machine learning algorithms with breakthrough algorithms to provide a fairer way of creditworthiness assessment on key features in given data sets.
- ReBiCoM presented a 92% reduction in gender discrimination and a 98% decrease in subgroups defined by an unsupervised machine learning technique.
- Presented, competed, and won 2nd place at the BPI D.A.T.A Wave 2024 under the Classical Machine Learning Track.

AuthentiKa   Nov 2024
OCR API and Web Scraping | Python, Flask, OpenCV, and Next.js
- Lead the development of an API that uses artificial intelligence, optical character recognition, and computer vision to create, manage, use, and store IDs and hide critical information such as your identification number, but shows important information such as your name and picture.

- Created a web-scraping application that derives a trust score based on perceived reviews from popular selling marketplaces such as Facebook Marketplace and Carousell, then aggregates the information.
- The entire project was developed by using Python, Flask, OpenCV, and Next.js.
- Won 1st Runner-Up at the Kaya Founders' Hack the Future: Technology for a Better World

ClashBytes   Sept 2024
Full Stack Blockchain Web Application | ERN Stack with JSON Server and IC Protocol via Azle
- A gamified web-based learning platform
- Developed using ERN (Express.JS, React.JS, Node.JS) stack to create an interactive learning platform for coding challenges.
- Blockchain was developed as a reward system for users to enjoy playing and learning within the platform, utilizing Internet Computer Protocol (ICP). Azle was used to incorporate the initial workflow we had into the blockchain.
- Won Champion at both the iThink Hackathon: Pump Up the Jam and Hooked Unitour Hackathon Philippines - Champion, while also finishing Top 15 at the DICT Philippine Startup Challenge 9
- Part of the StartUp QC Student Competition as Finalists.

Plateé   Jul 2024
Food Recognition Mobile App | Python and Figma
- A theoretical start-up idea with a sample prototype where phones can calculate the estimated calories and nutritional values from a plate or bowl using cameras.
- Utilized machine learning algorithms with the help of vector embeddings to create a base-case scenario for predicting the numerical nutritional values of the food.
- Won Top 4 in Mapua's NextGen Start-Up Challenge 2024

BrandLift   Jul 2024
AI Social Media Copilot | Next.js and Figma
- An AI-powered application that focuses on aiding social media management for aesthetic clinics in the country.
- The application uses real-time data collection and analysis to generate content based on trends within the market that would best fit their current set of followers and potentially garner more and new followers within social media platforms.
- Won 2nd Runner-Up at ASES Bootcamp for Career Design 2024

HackAttack! – A Gamified Learning Platform   Jul 2024
Full Stack Web Application | ERN Stack with JSON Server
- Developed a full-stack web application incorporating the ERN (Express.JS, React.JS, Node.JS) stack to create an interactive learning platform for coding challenges.
- Designed and implemented a single-player mode featuring an integrated IDE built with React.js and CodeMirror, allowing users to write and test code in real-time.
- Developed a multiplayer interface utilizing RESTful APIs for JSON read and write operations, enabling collaborative coding experiences.
- Architected and managed backend infrastructure with Express.js and Node.js, and utilized JSON Server for effective data storage and management.
- Won 2nd Prize at DLSU's Hackercup 2024, developed in only 24 hours.

KalingAI   May 2024
- Developed a medical diagnostic application using GPT-4 with large language model (LLM) fine-tuning and knowledge base embedding (KBE) integration for data analysis.
- The application uses collected data from the user via a chain of thought process that understands that patients then conclude with potential answers to their medical case and provide an initial diagnosis to be then aided by medical professionals.
- The solution was geared towards high-density health centers with long queue times, where people could insert their necessary credentials and initial symptoms to lessen the time needed to process patients in and out of the health center.
- FEU Tech ACM Codequest - 2nd Place and Best Poster Recipient

Student Learning Management Web Application for ActiveLearningPh   April 2024
Data Management Application | MySQL and JavaDerby
- Developed a comprehensive Student Learning Management Web Application to enhance the educational experience for students and educators in the Philippines.
- Designed and implemented features for managing courses, tracking student progress, and facilitating communication between students and teachers, including planning, execution, and delivery, ensuring alignment with educational goals and user needs.
- Developed the front-end interface using HTML, CSS, and JavaScript to create an intuitive and user-friendly experience for students and educators.
- Implemented the back-end infrastructure with Java, JavaServer Pages (JSP), Java Database Connectivity (JDBC), and MySQL for efficient data management and application functionality.

Car Rental Web Application   December 2024
Java, JavaServerPages, JavaDB, and SQL
- Developed a comprehensive car rental mock web application tailored for the Philippine market, focusing on user experience and functionality across multiple devices and screen sizes.
- Implemented a secure user authentication system, including user login and registration features, to ensure safe access and management.
- Designed and developed car listing and booking functionalities, allowing users to browse available vehicles, view detailed descriptions, and complete rental bookings.
- Developed booking management features for users to view, modify, or cancel their reservations as needed.

Experience & Leadership

Amazon Web Services (AWS) Cloud Clubs Philippines   August 2024 - Present
Internal Relations Manager
- overseeing the progress and accomplishments of clubs and chapters across the nation, ensuring they have the resources, guidance, and support needed.
- Regular check-ins and assessments help monitor each club's alignment with organizational goals, track performance, and celebrate achievements.
- Creating and managing programs that promote a positive workplace culture, boost morale, and align with organizational goals and values.

- Ensuring that all internal and external programs led by clubs and communications reflect the organization's values, mission, and vision.

Amazon Web Services (AWS) Learning Club - España   August 2024 - Present
Founder and Lead
- Founded the organization as the first cloud technology-driven organization for the students of the University of Santo Tomas.
- Leads the organization in developing projects that expose students to the wide array of use cases of cloud technologies, specifically AWS products and services.
- Currently, the organization is under application development to be recognized by the College of Information and Computing Sciences.
- Spearheaded collaboration between organizations and partners in order to provide more opportunities for growth through hackathons, seminars, and talks.

UST Computer Science Society   July 2024 - Present
Auditor
- Oversees the council's fund usage and approves all purchases, including liquidation and expense reports.
- Collaborates with partners to create more opportunities for the council.
- Serves as the officer-in-charge for the council's Technology Development Committee, Finance Committee, and External Affairs Committee.
- Also acts as the Interim Internal Vice President of the organization.

UST ICS Student Council   May 2023 - May 2024
Auditor
- Supervises the utilization of funds by the council and foresees all purchases by the council (liquidation and expense reports).
- Works with partners to help provide the council with more opportunities
- Officer-in-charge for the council's Logistics, Academics Affairs, Operations, and Technology Development Committee.

UST Thomasian Gaming Society   Jan 2023 - June 2023
Corporate Secretary
- Responsible for all papers that come in and out of the organization while taking care of all of the organization's documentation
- Handled the encoding of the organization's events through the e-ReSERVe platform.

UST Computer Science Society   October 2022 - June 2023
Executive Associate to the Auditor
- Responsible for helping the Auditor manage the Academics Committee and the Logistics Committee.
- Provided resources in the form of reviewers for the academics committee
- Planned and executed these events for the computer science course and the society's members.

UST Thomasian Gaming Society   October 2022 - December 2022
Executive Coordinator to the Corporate Secretary

- In charge of assisting the corporate secretary with paperwork and meetings
- Coordinated with partner organizations for sponsorships and partnerships
- Keeping track of all of the organization's documents that come in and out of the secretariat committee.

UST TOMCAT   October 2022 - June 2023
Executive Associate to the Technical Head
- Responsible for operating technical equipment such as lights, cameras, and audio devices while also being part of the streaming team for the event at hand.

UST Central Student Council   August 2022 - May 2023
Executive Staff of the Network Promotion Committee
- Tasked as the website manager and helped in the paper processing process of the development of the website, as deemed necessary by the university.
- Responsible for the deployment of the council's website, which aims to help provide students with easier access to the services offered to the student body.

UST Central Student Council   August 2021 - May 2022
Executive Staff of the Media Coverages Committee
- Responsible for recording, editing, and conceptualizing graphic designs and creating motion graphics for publicity materials to be used by the council.

UST Tiger SHOOT   May 2021 - May 2022
Technical Head
- Assigned for orchestrating live events for the senior high school community remotely, and coordinated the technical team to suit the needs of each event as best as the organization needed.
- Oversaw the preparation of the technical team's pre-production and ensured the quality of events.

UST STEM Society   July 2020 - May 2021
Executive Committee Co-Director
- Organized activities for the organization and the STEM strand while coordinating with other committees to execute the events spearheaded by the executive committee.

UST Future Scientists Club   August 2020 - May 2021
Secretariat Head of Externals
- Supervised and handled partnerships with organizations outside the university that are in line with the organization and its future projects.
- Provided consistent updates on partnership agreements and paperwork to the organization's executive board.

The Olivarian Oracle   July 2018 - March 2019
Editor-in-Chief
- Led the design and publication of the school newspaper and the creation of articles about events inside and outside the campus.

- News writer for the publication, tackling academic affairs and future projects of the IBED department.
- Coordinated with the students, departments, faculty, staff, and administrators for insight into changes made to enhance the learning experience for students and how to create a better environment for students.

Volunteer Work

Parish Pastoral Council for Responsible Voting May 2022
Manpower for the 2022 elections - election returns.

Tanging Yaman Foundation December 2021
Manpower for the foundation's donation drive for Super Typhoon Odette.

Seminars Attended

ECHELON Philippines 2024 - Delegate
Trend Micro's Decode 2024: Fusion Forward - Student Delegate
GitHub Field Day 2024 - 1 out of the 90 delegates selected from over 10,000 applicants nationwide.
UX+ Conference 2024 - Delegate

Events Handled and Spreadheaded

UST Computer Science Colloquium 2025 - Project Head
UST CSS CodeSprint 2025 - Project Head
University of the Philippines - Manila's sPRINT ("run") 2024 - Judge
Philippine Startup Week; Shaping Future Founds: How Schools Propel Innovation and Entrepreneurial Growth - Speaker
UST Vuja De Tech Talks 2024 - Project Head
UST CSS OlympiCSS 2024 - Project Head
AWSomeness in España: Cloud Community Showcase - Project Lead and Speaker
TechBayanihan 2024: Copilot Para Sa Bayan - Program Lead
UST CSC e-SINAG 2024 - Moderator
UST CICS TECHNOLYMPICS: The ICSportfest - Project Head
UST CTHM AI Responsibility Forum - Panel Reactor
HSLU's Information Technology Digitalization And Sustainability Careers - Office-in-Charge
UST ICS Student Council CenTARAlized - Project Head
UST University Expo, CICS Unit - Officer-in-Charge and Logistics Head
UST CICS x Computer Science Teachers Association (CSTA) Philippines: Reigniting the Passion for Computer Science Education - Marshall
UST Welcome Walk 2023: Into The CICSVerse - Logistics and Mobilization Head
UST CSC KONNECT: League of PROs 2023 webinar - Host
GoPro: Build Your Career in Esports Webinar - Project Head and Host
UST Tunog Tomasino 2022 - Camera Operator
UST Junior Philippine Pharmacists' Association Usapang Pharma - Playback
UST CICS C.A.R.E: Community Allies for Responsible E-citizens Webinar - Project Head
UST Freshmen Walk 2022 - Volunteer Staff

UST SHS Afterglow: Bound for Magic! - Technical Head
UST TGS ICON 2022: Creator's Spotlight - Technical Head
UST TGS Allegro: Live into the Melodic Serenades - Technical Head
UST TGS Perspicio: Miting De Avance 2022 - Technical Head
UST CSC SINAG 2021 - Moderator and Game Master
UST CSC BREAKTHROUGH: Understanding Different Minds - Project Head
UST SHS ALAB 2021: Braving the Cyberworld - Technical Head
UST SHS ALAB 2020 - Correspondent