DORIAN CLAY
Software Engineer II

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WORK EXPERIENCE

Microsoft   *Software Engineer II*   Jan 2023 – Current

Creating lightweight C++, C#, and JavaScript libraries for Windows app developers to monetize freemium apps. Currently developing modern C++ library to create a highly usable, performant, and valuable monetization solution for next-generation Windows apps.

- Directly responsible for features that have generated > 20% quarterly revenue uplift.
- Scaled C# Windows Ad SDK from prototype to production, now serving 800M+ daily user sessions.
- Led redesign of library architecture to reduce coupling and stabilize API prior to public release.
- Created and maintain production Azure resources like CDN, Traffic Manager, security certificates, and pipelines.
- Communicate with internal and external partners to drive alignment and deliver project milestones on time.
- Contribute to SDK roadmap including customer requirements, product planning, and engineering design.

Microsoft   *Software Engineer Intern*   Jun 2022 – Sep 2022

Created an experimentation framework allowing software developers to quantify the impact of user experience changes to a web page. This enables rapid iteration on design decisions, leading to better product design.

- Defined project goals and feature requirements to align with strategic direction of the organization.
- Designed and implemented framework enabling dynamic selection of web components rendered on a page.
- Presented the project to audience of 50+ internal stakeholders, some of whom adopted the project in their products.
- Clearly documented design decisions and implementation to transition the project to colleagues after my internship.

WiBotic, Inc. | A UW CoMotion Spin-Off   *Robotics Engineering Intern*   Oct 2017 – Sep 2018

Produced prototype of fully automated wireless charging capability for commercial warehouse robots.

- Created networking module with Robot OS (ROS) APIs to provide battery level information to other modules.
- Incorporated battery level signals into route planning logic, queueing a charging task when the robot has low power.
- Improved self-docking procedure to dock the robot millimeters from wireless charger. The improved docking distance increased charging efficiency exponentially.

RESEARCH EXPERIENCE

Technology Ethics   *Co-author*. PI: Prof. Erick Ramirez, Santa Clara University   Jun 2020 – Apr 2024

Explored ethical questions that arise in a future where augmented and virtual realities (AR and VR) are part of the basic social and political structures of society, much as social media has become in the last two decades. Published a paper, a book chapter, and gave a presentation discussing these ethical analyses.

AI Explicability   *First Author*. PI: Dorian Clay, Santa Clara University   Sep 2021 – Jun 2022

Investigated whether hybrid AI would provide increased levels of generalized learning and interpretability for my senior thesis. Applied recent advances from visual question-answering problems that combine neural networks with symbolic logic approaches to a puzzle game problem. Ability for a model to learn was evaluated via a puzzle strategy game I wrote and ran in an OpenAI Gym. Heuristic and reinforcement learning algorithms were implemented as baselines to compare against a hybrid model.

ML | Graph Neural Networks   *Student Researcher*. PI: Prof. Yuhong Liu, Santa Clara University   Jan 2020 – Jun 2020

Worked in Dr. Yuhong Liu's Trustworthy Computing Lab, investigating detection of fake news in online social media platforms for elective research credit. Explored a novel concept using ego-centric networks to understand information influential to a certain user to infer whether the user is likely to spread misinformation. Upon the completion of the research courses, I handed off the project to another undergraduate student researcher.

WORKS IN PROGRESS

Embodiment, Relationships, and Sexuality in the Metaverse: A Critical Analysis   Under review

Explores how extended-reality embodiment and virtually real experiences challenge normative concepts like relationships, sex, and sexual orientation. Paper also considers moral deskilling and proper target concerns raised when relationships are mediated by extended reality and AI. Submitted to the Journal of Responsible Technology.

PUBLICATIONS

[1] Erick Jose Ramirez, Shelby Jennett, Dorian Clay, and Mohit Gandhi. "Exploring Extended Realities: Metaphysical, psychological, and ethical challenges". In: ed. by Erick Ramirez and Andrew Kissel. Routledge, 2023. Chap. Extended reality, control, and problems of the self: An ethical analysis.

[2] Dorian Clay. "Expanding Neuro-Symbolic Artificial Intelligence for Strategic Learning". In: *Santa Clara University Computer Science and Engineering Theses*. 228. 2022. URL: https://scholarcommons.scu.edu/cseng_senior/228/.

[3] Dorian Clay and David Anastasiu. "Expanding Neuro-Symbolic Artificial Intelligence for Strategic Learning". In: *ACM SIGKDD Undergraduate Consortium*. Washington, DC, USA: ACM, Aug. 2022. URL: https://kdd.org/kdd2022/papers/17_Dorian%20Clay.pdf.

CONFERENCE PRESENTATIONS

Expanding Neuro-Symbolic Artificial Intelligence for Strategic Learning (feat. Blokboi) — May 2022
Santa Clara University 52nd Annual School of Engineering Senior Design Conference

The Metaverse and Problems of the Self — Apr 2022
Great Lakes Philosophy Conference

AWARDS

Markkula Center Engineering Ethics Prize   Santa Clara University — Jun 2022
Awarded for best analysis of ethical issues related to the senior thesis.

Santa Clara University Dean's List — Jun 2019
Top 10% of School of Engineering students.

EDUCATION

M.S. Artificial Intelligence   Johns Hopkins University — Aug 2024 – current

B.S. Computer Science and Engineering   Santa Clara University — Sep 2018 – Dec 2022

B.A. Technology Leadership and Policy   Santa Clara University — Sep 2018 – Dec 2022