Luke Ponssen

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EDUCATION

B.S. Computer Science and Engineering

Santa Clara University Honors Program | Santa Clara, CA   *Exp. Jun 2026*

Yonsei University | Seoul, South Korea   *Aug 2024—Dec 2024*

GPA: 3.9

Courses: Theory of Algorithms, Abstract Data Types & Structures, Object-Oriented Programming, Probability & Stats, Differential Equations, Discrete Math, Linear Algebra, Embedded Systems, Electric Circuits, Digital IC Design

PROFESSIONAL EXPERIENCE

Software Engineering Intern   *Jun 2024—Aug 2024*
BillionToOne | Menlo Park, CA
- Developed a customized AI assistant chatbot by streamlining OpenAI API calls to Slack Bolt App API endpoints
- Designed 6 custom features and 100+ use cases for Quality Assurance, Bioinformatics, and People Ops teams
- Reduced AI assistant response time by 61.3%, added multimodal support for 12 file types with LlamaParse API
- Streamlined deployment, enhanced scalability & increased containerization with Docker, Terraform, and AWS

Full-Stack Engineering Intern   *Jul 2023—Sep 2023*
AIMS Team | Fremont, CA
- 300+ hrs of experience engineering full-stack solutions for mobile/web apps for 20 water/wastewater districts
- Import 1,000,000+ assets and their features using SQL and create spatial relationships using ArcGIS Maps SDK
- Manipulate 2TB of data from clients in SQL and connect it to web applications using C#, JS, HTML, and ASP.NET
- Engineer 3 mobile apps for clients using ArcGIS Online and REST API Service to automate data updates/queries

VR Software Engineer   *Jan 2023—Present*
Human-Computer Interaction Lab at Santa Clara University | Santa Clara, CA
- Create a digital twin of university dorms in VR, adapt website with hyper-attentiveness to user feedback on UI
- Implement Matterport SDK with Javascript to make 10 3D virtual scans of dorms accessible to touring students
- Contribute original ideas and research in weekly 3 hour meetings and guide our work using Agile methodology
- Presented our VR project to the Matterport Executive Board, establishing/bridging their relationship with SCU

RESEARCH EXPERIENCE

Machine Learning Researcher   *May 2020—Nov 2021*
Aspiring Scholars Directed Research Program | Fremont, CA
- Compiled, organized, and processed 531,468 county-level demographic, economic, and education data points
- Constructed SVM, Random Forest, Decision Tree models with libraries tensorflow, keras, sklearn, numpy
- Increased Multilayer Perceptron classifier accuracy 15% by effectively utilizing industry feedback from Dr. Mui
- Presented at Southern California Conference Undergraduate Research 2021 (hosted 700+ participants online)
- Publication: Ponssen, Luke, et al. "Using Classification Models to Analyze Bellwether Counties in U.S. Presidential Elections." *Seriatim Journal of American Politics*, vol. 3, no. 2, 2021, pp. 8-21.

PROJECTS

- Website Portfolio: I learned in 4 days through trial & error how to use HTML, React JS, and CSS to customize the UI/UX, animate typed prompts, create templates and navigation bar, and automate website workflows/updates
- Bronco Salt & Pepper Shakers: Designed hugging bronco salt & pepper shakers using SolidWorks CAD software and 3D printed 40 shakers over 250+ hours using Prusa and Ultimaker, laser cut acrylic sliders for the bottoms

SKILLS

- Technical Proficiencies: Python, Java, SQL, JS, HTML & CSS, C++, C, C# | Git, Linux, ArcGIS, Matterport, Treedis
- Languages: English (Native), Spanish (Advanced) | Spanish Immersion Program (K-8) and AP Spanish
- Soft Skills: Intellectually Curious, Adaptable, Leadership, Strong Communication, Problem-Solver, Innovative

AWARDS AND DISTINCTIONS

- INRIX Hackathon 2023 | 1st Place (43 teams, 304 participants) | Devpost | GitHub
- Santa Clara University 2023 Maker Product Design Challenge | 2nd Place ($1500) | Website