Joshua K.A. Cepeda

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Education

Bachelor of Science at the University of Notre Dame — August 2018 - May 2022
Major in Computer Engineering with Minor in Collaborative Innovation — 3.6/4.0 GPA
University of Notre Dame Merit Scholar, Trustey Family Scholarship
National Merit Scholar

Technical Skills

Programming/Markup languages: Python (8 years), Javascript (5 years), HTML/CSS (5 years), C/C++ (3 years), C# (1 year), MATLAB (1 year)

Software experience: Linux, bash (5 years), Git (4 years), LaTeX(3 years), Bootstrap/tachyons (2 years), Solidworks (1 year), Raspberry Pi (3 years), Arduino (4 years), vim (6 years), Unity (1 year), Yocto Project/Bitbake (2 years), node.js/express.js (2 years)

Work Experience

Computing Assistant, Notre Dame Department of Engineering Science Computing — Spring 2019 - current, Notre Dame, IN

- Deployed Windows images to computing clusters for University engineering and science classrooms
- Wrote Powershell, batch, Visual Basic scripts to automate Windows computer cluster deployments, saving hours otherwise spent configuring over 100 computers
- Wrote Javascript application to display computing cluster usage status

Notre Dame Research Assistant, Center for Research Computing — Fall 2019 - current, Notre Dame, IN

- Helped create hardware benchmarking suite to evaluate System-On-Chip modules for CERN Compact Muon Solenoid Phase 2 upgrades
- Used the Petalinux Build Environment and the Yocto Project to build and install a custom Linux kernel to run benchmarking software on the the Enclustra Mars ZX2 System-on-Chip module
- Used the Yocto Project to build BalenaOS for the Enclustra Mars ZX2 System-on-Chip module

Educational Activities

Participant, Saint Mary's Data Science Hackathon — Fall 2020, Notre Dame, IN

- Collaborate with team of 3 over the course of 24 hours to build a machine learning-based recommender system
- Team took 2nd place, out of 50 participants

Participant, Irish Hacks Hackathon — Fall 2019, Notre Dame, IN

- Collaborated with team of 4 over 48 hours to create IBM Watson Discovery News powered Chrome Extension to give users links to news articles from politically diverse viewpoints covering the same topics
- Team took 1st place, Best Overall Project out over 75 participants

Participant, Notre Dame Data Club Hackathon — Fall 2020, Notre Dame, IN

- Performed statistical analysis with R and pandas of publicly available mental health dataset to draw insights about company culture and mental illness
- Created presentation website (here) to present results using plot.ly and tachyons libraries
- Team took first place in month-long competition out of seven teams

Participant, South Bend Global Game Jam — Winter 2019 and 2020, South Bend, IN

- Worked in Unity and C# with a team for 48 hours to create a game for the 2020 Global Game Jam
- Worked in Unity and C# with a team for 48 hours to create a top-down platformer for the 2019 Global Game Jam

Independent Projects

Developed personal website (centipeda.cc) with HTML, CSS, and Javascript, using a node.js backend

Wrote Python script leveraging Spotify and Youtube Data APIs to convert Spotify playlist into YouTube links

Used Arduino and C++ to create miniature Tetris game, complete with sound and music

Wrote bots in Python and Javascript using the Discord API to manage server administration for Discord server of 500+ members

Used an RGB LED matrix, a Raspberry Pi, and C++ to create animated LED display for high school graduation cap

Developed Chrome extension to show the number of words highlighted in the Chrome context menu

References available upon request.