Punit Lodha

✉ punitlodha@pm.me   🌐 punitlodha.github.io   ⧉ PunitLodha   in PunitLodha

EDUCATION

Saarland University	Saarbrücken, Germany
Masters in Computer Science	*Oct 2022 – Present*
Mumbai University	Mumbai, India
Bachelors in Computer Engineering; GPA: (9.5/10)	*Aug. 2018 – May 2022*

EXPERIENCE

Software Engineering Intern　　　　　　　　　　　　　　　　　　Dec 2021 – Sept 2022
Emotech.ai　　　　　　　　　　　　　　　　　　　　　　　　　　*Remote, London*

- Developed a streaming media library in rust using ffmpeg to extract audio samples and video frames
- Integrated this library in a microservice for a multimodal pronunciation assessment engine, leading to 10% increase in the engine's media decoding performance
- Optimized resource loading for the text normalizer to see performance gains of 6%
- Implemented an API using axum to render animations into 3D models using the FBX format

Student Developer　　　　　　　　　　　　　　　　　　　　　　Mar 2021 – Aug 2021
Google Summer Of Code 2021 w/ CCExtractor　　　　　　　　　　　　　　*Remote*

- Worked with CCExtractor over the summer on the rewrite in rust project. View Project
- Ported the CEA-708 decoder from C to Rust, with significantly improved timing and documentation
- Added writers for different subtitle formats such as SRT, SAMI, transcripts, etc to the decoder
- Integrated the rust code into various build systems such as Cmake, Autotools, Visual Studio on linux and windows platforms

Software Engineering Intern　　　　　　　　　　　　　　　　　　July 2020 – Sept 2020
Rockmetric　　　　　　　　　　　　　　　　　　　　　　　　　　*Remote, Mumbai*

- Redesigned the login workflow and implemented the same in react
- Improved overall UI/UX of Dashboards and added quality of life features such as quick resize, filters, etc
- Upgraded codebase to use modern react idioms such as react hooks

VOLUNTEER

Mentor　　　　　　　　　　　　　　　　　　　　　　　　　　May 2022 – Present
Google Summer Of Code 2021 w/ CCExtractor　　　　　　　　　　　　　　*Remote*

- Maintained the rust codebase and conducted code reviews to check PRs
- Took regular updates from the GSOC students and mentored them on their projects

PROJECTS

Bitr | *Rust, tokio*

- Implemented the Bittorrent Protocol Specification to create a bittorrent client in rust
- Used the rarest first piece picking alogrithm to even out the piece distribution in the swarm and increase tolerance to peer's leaving

Inventory Management Website | *React, Material UI, d3.js, Figma*

- Designed and developed a web app as single front for all inventory needs, that includes product listing and transactional features for buying and selling
- Built a dashboard, with d3.js, to show animated charts and graphs to show yearly sales figures, product contributions to sales, and other inventory statistics

TECHNICAL SKILLS

Languages: Rust, Javascript, Go, C/C++, Python, Java, HTML/CSS, SQL
Frameworks: React, Node.js, Axum, Material-UI
Developer Tools: Git, Docker, GitHub actions, Figma, Google Cloud Platform, VS Code, Visual Studio, Neovim