# Krusna Balar

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## Education

**University of British Columbia, Vancouver**        May 2023

B.Sc. | Major in Computer Science and Physics | GPA: 3.70

**Coursework:** Software Engineering, Operating Systems, Databases, Randomized Algorithms, Advanced Machine Learning

**Awards:** Faculty of Science Student Scholarship worth $15,000 for academic achievement and extracurricular engagement

## Skills

**Languages:** JavaScript, TypeScript, Java, Python, SQL, HTML, CSS, PHP, C++

**Frameworks and Tools:** AWS, GitHub Actions, Node.js, React.js, Express.js, Electron.js, Svelte, PostgreSQL, MySQL

## Experience

**Software Engineer Intern,** Honest Empathy – Vancouver        Jan 2022 – Aug 2022

- Built a virtual meeting platform with call tracking, verification, and peer-to-peer transmission features using the WebRTC protocol, replacing a third-party service to save the startup $10k annually
- Collaborated on the matching algorithm by implementing the vector scoring and sorting mechanism to boost user connections by 20%
- Optimized match finder API by switching to concurrent network calls to an overloaded endpoint, reducing load time and TTI by 60% to enhance platform performance
- Worked across frontend, backend, and DevOps projects to build and deploy complex UI, data pipelines, and automated testing

**Software Engineer Intern,** Prodigy – Vancouver        Aug 2021 – Dec 2021

- Created an appointment dashboard with availability tracking, automated reminders, and time zone detection to optimize the candidate recruitment pipeline
- Developed a search directory to query real-time supervisor data from university APIs, cutting app maintenance tasks by 25%
- Collaborated with a UX designer to implement an accessible and performant front-end utilizing Styled Components and Material UI within React.js, increasing program engagement by 30%
- Built and deployed scalable, production-ready code adhering to best design pattern practices and shipped it to hundreds of users

**University Orientation Leader,** UBC – Vancouver        Sept 2020 – Apr 2021

- Developed and delivered coursework on complex subjects including software architecture, design patterns, and object-oriented programming to provide foundational knowledge to 60 incoming students
- Organized virtual community events drawing over 300 attendees, fostering remote engagement and facilitating connections

## Projects

### Exam Cal

- Created a scraper app to deliver exam details into Google and iOS Calendars within 5 seconds, improving student preparedness
- Deployed as a web app to AWS Elastic Beanstalk with CodePipeline, and as a cross-platform desktop app with Electron.js to ensure accessibility across many devices
- Reduced page load time by 12% by leveraging the efficiency of Svelte to generate lightweight bundles and improving user experience
- Utilized the Node.js runtime environment and Express.js framework to process REST API calls for 8 CRUD operations

### Bridge Doc

- Built a symptom classification app using Django and Streamlit to optimize patient intake processes for medical professionals
- Implemented the categorization of 11,000 colloquial descriptions of medical symptoms into 20 categories with an 85% accuracy rate
- Developed a data pipeline to mine and refine diagnosis-related prompts from medical subreddits and Twitter posts for model training to enhance the app's diagnostic capabilities

### Course Planner

- Developed a querying app using TypeScript to aid course coordinators in assigning 12,000 courses to 350 classrooms over 4 semesters
- Implemented a custom query language to provide efficient access to sort and organize university metadata from two API endpoints
- Designed a RESTful API server to ensure persistent data storage and updates in a PostgreSQL database