

# Raghunath Prabhakar

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## PORTFOLIO WEBSITE

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<https://raghunathprabhakar.com/>

## EDUCATION

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### University of Winnipeg:

BSc. - Applied Computer Science (In progress)

BA Minor - Economics

**Google Careers Certification** – Project Management

## EXPERIENCE

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### Project Assistant – UW Code Force (2021 - Current)

<https://uwcodeforce.ca/>

An initiative started by the students of the University of Winnipeg to bridge the gap between education and the work-force. **Organizing coding competitions and open source projects** throughout the academic school year; and helping students learn valuable industry skills such as working in a team, advanced problem solving, collaboration with git (and other build tools) & application deployment.

- Active leadership position as Project Assistant.
- Kept track of current/planned issues for my team in biweekly Agile sprints.
- Reviewed code for junior peers/team members.
- Participated in weekly Agile like standup meetings with Project Leaders.
- Discussed weekly state of Kanban board in standup; gave suggestions & helped sort issues by priority.
- Discussed iterations; suggested & gave feedback on new issues for biweekly sprints.

## PROJECTS

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**Student Net (Open Source):** Collaborated in an Agile environment to build a one stop solution for all kinds of student problems. A website where University of Winnipeg students can connect with each other and find useful information like job listings, rentals, used cars, ongoing student offers/discounts, course info and international student resources.

- Created Sign In/Sign Up pages with stateful form validation.
- Implemented Session based authentication using MySQL, passport and a combination of Express & NextJS API routing.
- Implemented loading/disabled states in submit forms to counter request spam.

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**Stack:** Docker, MySQL, Next.js, React, Express, NodeJS

**Repo:** <https://github.com/UWCodeForce/student-net/>

**More Info:** <https://raghunathprabhakar.com/projects/student-net/>

**Multiplayer Poker Game:** Built a WebSocket based Mutliplayer Poker Game with Token based user-authentication using a REST API. The game was created in effort to learn more about WebSockets and working with APIs.

- Implemented JWT authentication with Refresh/Access token patterns to protect against XSS (cross-site scripting) vulnerabilities.
- Tokens are stored in Secure, HttpOnly cookies as opposed to LocalStorage for further protection
- Created REST API endpoints for Sign In/Sign Up that validate and store data in a MongoDB database
- Added hashing to user passwords before saving them in the database
- Implemented logic for sending out confirmation emails to users, requiring them to activate their account before signing in
- Implemented Room-code matchmaking and automatic Queue based matchmaking using Socket.io

**Stack:** MongoDB, Express, React, NodeJS

**Link:** <https://www.raghu-poker-game.netlify.app/>

**Repo:** <https://github.com/Raghuboi/multiplayer-poker-game/>

**Snake AI:** Coded a re-creation of the classic Snake game, gave it an AI using path-finding algorithms. The game was created in effort to learn more about Data Structures, Algorithms & Path-finding.

- Made the game responsive, enabling it to be played by swiping on a touchscreen or using arrow-keys on a keyboard
- Implemented A-Star and Greedy best first search algorithms
- Used a custom UseInterval() React hook to time the gameloop, set up the game to be rendered in an HTML canvas using React

**Stack:** JavaScript, React, CSS

**Link:** <https://raghu-snake-game.netlify.app/>

**Repo:** <https://github.com/Raghuboi/snake-game-AI>

## VOLUNTEER WORK

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(2008-2019) **Bharat Soka Gakai:**

- Actively helped in organizing the SGI May 3<sup>rd</sup> Anniversary event every year.
- In-charge of a number of tasks including decoration, cultural performances, seating arrangements and catering. Chandigarh, India.

(2010-2016) **Sri Sathya Sai Seva Organization:**

- Volunteered to teach English and Math to underprivileged students.
- Participated in blanket and food distribution drives during winters for the homeless in the city of Chandigarh, India.