JOEL THOMAS HEMPEL
YEAR 3, COMPUTER SCIENCE

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TECHNICAL SKILLS

Programming: Java, C++, C, Python, HTML*, CSS*
Databases: SQL, ER diagrams, Relational Algebra
Game Engines: Unreal Engine 5*, Unity*
Testing: Junit 5, Unit Testing, Test-driven development   *developing

TECHNICAL PROJECTS

Chore Tracking Application *(Software Construction)*   Sept. – Dec. 2022

- Constructed an interactive chore tracking application that allows users to automate task distribution and monitor completion
- Utilized object-oriented design principles and Unit testing using JUnit 5 with 100% test coverage on model
- Implemented user-friendly and modern-looking GUI
- Designed algorithm to assign chores to members semi-randomly with respect to existing chore load and chore difficulties
  Technologies: Java, Java Swing, JUnit5, JSON, Git

"Sleepy Ninja" Game   Jan. 2023

- Created a 2D side-runner game in which the player avoids obstacles flying towards them
- Developed entire game including texture design, player interaction, and animation
- Implemented collision detection of player with ground and obstacles, animation of obstacles, and menu/pause screens within 24 hours
  Technologies: JavaScript, Git, Figma

Constraint Satisfaction Problem Solver *(Intro to AI)*   Oct. 2022

- Created an algorithm that solves constraint satisfaction problems using Depth-First Search with path pruning and allows for the use of search heuristic
- Design recursive search algorithm based on prior algorithms and data structures experience
- Allowed for use of heuristic by making constraint satisfaction checking operation modular and allowing for different ordering of constraint variables
  Technologies: Java, Javadoc

WORK EXPERIENCES

IT Undergraduate Intern, *Industrial Light & Magic (Lucasfilm Ltd.), Vancouver, BC*   May – Aug. 2022

- Solved 300 tickets by communicating effectively with clients and using technical expertise
- Communicated promptly with IT Team to coordinate daily operations
- Troubleshot OS-related problems on Windows, MacOS, and Linux
- Coordinated project across multiple departments

Soccer Coach, *Richmond FC, Richmond, BC*   Aug. 2020 – Jul. 2021

- Independently worked and developed a safe environment for all members and children from ages 5-16
- Communicated with staff, players, and parents to allow for smooth operations

EDUCATION

University of British Columbia, BC – Bachelor of Science, Computer   Expected Graduation: 2025
Langara College, BC – Fulfilling Requirements for UBC *(CGPA: 4.17/4.33)*   2020 – 2022

- Ernest E. Livesey Memorial Prize in Mathematics (2021)
     Awarded to student with highest achievement in university transferable mathematics or statistics courses
- LSU Faculty of Science Award (2021)
     Awarded to best science student of 2021/22 semesters
- Dean's Honor Roll (2021)