

Reel Picks

CSC468 Introduction to Cloud Computing

Dr. Linh B. Ngo

Garrett Crowner, Brook Kassa, Nicholas Resto

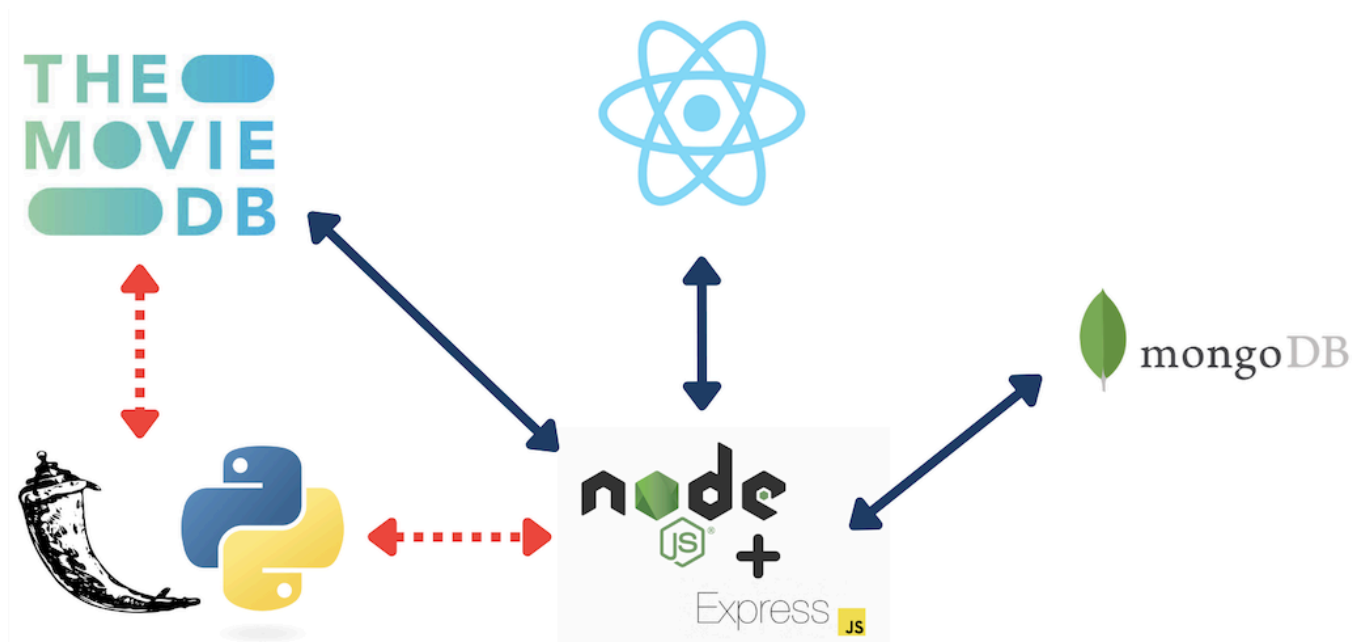
Technical Report

Chapter 1:

Our team's vision is to create an interface in which people will be recommended movies that they may enjoy. We plan to have a user interface that users can interact with, a database of movies to be recommended, and AI-integration to power recommendations. Potentially we will add a feature where users can log past movies they enjoyed to get updated recommendations. If this is the case, we will also need to implement some type of authentication services. Our high level architecture is a user interface, a database, and a recommendation engine, and potential authentication services, with Node.js' API to ensure proper communication between all three.

Chapter 2:

We plan to use React UI as our user interface. Reach will call the Node.js API based on user requests. Node.js will reach out to our external database (The Movie Database [TMDB]) so we have a list of potential movie recommendations. Node.js will also communicate with our AI-powered recommendation engine, and MongoDB so that we are able to manipulate and store any user data. If we do decide to use MongoDB to store the user data, we will also need an authentication service. We plan to create some criteria for similarity scores between what the user specifically asks for and potentially past watched films.



Chapter 3:

In the deployment of our full stack movie recommendation website, each component (Frontend, Backend, Database, AI-Recommender) are containerized separately. Within our GitHub repository, there are Dockerfiles contained within each of our project component subfolders. They are responsible for creating the individual docker images for each component to run properly.

This is the structure we used when creating our Dockerfiles:

```

1  # Set the base image as Node.js 16
2  FROM node:16
3  # Set the working directory inside the container
4  WORKDIR /app
5  # Copy package metadata files to the container
6  COPY package*.json ./
7  # Install all required dependencies
8  RUN npm install
9  # Copy all source code files into the container
10 COPY . .
11 # Declare that this container will use port ...(frontend only)
12 EXPOSE
13 # Command to run specified component
14 CMD ["", ""]

```

We constructed our docker-compose.yml, located in our Project folder, to automate the construction of our application using Docker Compose. This allows us to use one command: “docker-compose up” to start all components together with the correct configurations.

●	mongo-1	67810a8ff925	mongo:4.4	
●	backend-1	82169937a66e	project-backend	
●	frontend-1	718b425c3c68	project-frontend	3000:3000 ↗

Issues:

- Error Message: Cannot find module ‘dotenv’
 - This issue occurs when the backend container fails to start due to a missing dependency (dotenv). I corrected this issue by installing dotenv into the backend folder. When starting up the backend again, the command “npm install” would install dotenv along with the other listed dependencies from the package.json file.

Garrett D. Crouner

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<https://github.com/GarrettCrouner><https://www.linkedin.com/in/garrett-crouner-365671338/>**Education:**

West Chester University of Pennsylvania, Honors College	2022 - 2026
Bachelor of Science, Computer Science, GPA: 3.643	
Computer Security Certificate Track	
Minor in Spanish	
Minor in Civic and Professional Leadership Development (Concentration in STEM)	
University of Barcelona	2024
Advanced Spanish coursework	

Awards:

Council of Trustees Scholarship - full tuition	2022-2026
Dean's List	2023, 2024
Lake Heritage Fishing & Women's Club Award	2022
University Student Housing Honors Scholarship	2022
Realtors Association of York & Adams Counties Scholarship	2022

Scholarly Activities and Affiliations:

Honors Student Association	2022 - 2024
Travel Abroad Term	2024
Student Representative for Honors College Modernization	2024
West Chester Competitive Programming Contest	2023

Relevant Projects

- Linux System Administration Project - Linux administrator tasks and procedures
- Genetic Programming Project - Pseudo-randomly generated machine learning self-evaluating expression-tree
- Designing a security policy for a university structured organization

Community Service and Volunteerism:

North Star of Chester County	2024
- Local 501(c)(3) non-profit working with ALICE families: grant proposal, fall fundraiser, volunteer events, bake sale, etc.	
Adopt-a-Block	2022 - 2023
- Community-based trash clean up program	

Employment:

Mela Kitchen	2020 - 2023
- Food service	
- Dishwashed, hosted, served	
- Proved trainability and upward mobility	

- Familiarized with customer service and customer relations

Gettysburg Benefits Administrators

2023 - 2024

- *Quality Assurance Analyst*
 - Quality reviewer for both build-from-scratch and re-enrolls for insurance enrollment websites
 - Increased percentage of first-pass tests
 - Entrusted with process improvement for quality analysts
 - Working with Salesforce inbound requests
 - Familiarity with insurance vocabulary, concepts, carriers, brokers
- *Case Builder*
 - Trained as a case builder, building insurance enrollment websites
 - Familiarized with the product development process
 - Worked in a technical environment
 - Worked with a technical team

Kelly Benefits

2024 - present

- *Quality Assurance Analyst*
 - Quality Review Analyst for build-from-scratch and re-enrolling insurance enrollment websites
 - Helped train new quality analysts for the role
 - Entrusted with process improvements and system engineering
 - Working within a formal corporate structure
 - Weekly improvement and performance reports
- *Case Builder*
 - Trained as a case builder, building insurance enrollment websites
 - Reintroduced to the product development process
 - Continued working in a technical environment
 - Continued working with a technical team
 - Weekly improvement and performance reports

Special Skills and Certifications:

Programming Languages: Java, C, C++, Bash Script, HTML, CSS, MATLAB, Haskell

Operating Systems: MacOS, Windows, Linux (Ubuntu and Manjaro Distributions)

Other Tools: Selerix, WireShark, Nmap, Cisco-Packet Tracer, SPSS, Git, GDB, Office365

HIPPA Certified, CITI Certified

References Available Upon Request

Nicholas Resto

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www.linkedin.com/in/nick-resto/

Education:

West Chester University of Pennsylvania

West Chester, PA

Bachelor of Science in Computer Science

August 2022 – May 2026

Minor in Women's and Gender Studies

August 2022 – December 2025

Experience:

Advanced Computer Technician

February 2025 – Present

Best Buy, Geek Squad

Downingtown, PA

- Resolved complex software and hardware repairs efficiently and with top-level accuracy.
- Complete in-depth malware removal and operating system restoration
- Ensuring client satisfaction and QoS through accurate documentation and execution of repairs
- Navigated through complex file/data recoveries and transfers.
- Effectively communicated with clients over the phone and in person to explain diagnostic discoveries and make recommendations for protecting their devices and resolving issues.

IT Sales Consultant

December 2023 February 2025

Best Buy, Geek Squad

Downingtown, PA

- Effectively managed a ticketing system, properly managing time for all clients.
- Greet and assist clients, actively listen to their needs, and provide recommendations/solutions based on their requirements.
- Thoroughly explained product features, specifications, and held in-depth demonstrations for clients.
- Performed necessary repairs/fixes to client devices in a timely manner.

Apple Authorized Service Provider (AASP)

December 2023 –February 2025

Best Buy, Geek Squad

Downingtown, PA

- Troubleshoot Apple products such as Mac, iPhone, iPad, Apple Watch, AirPods.
- Diagnosed and repaired complex hardware and software issues on Apple devices in compliance with AASP standards.
- Performed same-day Display, Battery, Camera, and Back Glass repairs on iPhones.

Additional Experience:

Warehouse Associate

November 2022 – December 2023

Raymour and Flanigan

Exton, PA

- Provided support in managing inventory control and optimizing related processes to ensure efficiency and accuracy within the warehouse.
- Expertly assemble a variety of new furniture pieces, following guidelines to ensure quality and durability.

Dishwasher

March 2019 – August 2022

Estrella Tacos y Mas

Downingtown, PA

- Cleaned, sanitized, and restocked dishes, glassware, utensils, and pots, operating machines to proper company and manufacturer standards.
- Maintained a safe, clean environment in alignment with sanitation guidelines by routinely cleaning and organizing stockroom, storage areas, and other kitchen areas.

Technical Skills:

- Languages: Java, Python, Haskell, Swift, C
- Skilled in home-networking setup and maintenance, including installing routers, troubleshooting connectivity issues, and optimizing network performance for reliable and secure connections.
- Experienced in 3D printing: 3D modeling, model preparation, slicing, printer calibration, and print optimization.
- Skilled in assembling, troubleshooting, diagnosing, and repairing computer systems, ensuring optimal performance and reliability.
- Well-versed in operating systems, including macOS, iOS, Windows 10/11, and foundational Linux

Brook Kassa

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West Chester University of Pennsylvania
West Chester, PA

Bachelor of Science in Computer Science

Expected Graduation Date: June 2025

Relevant Coursework:

Data Communications and Networking

- Studied computer networking fundamentals
- Used Cisco Packet Tracer to create network topologies
- Worked with Wireshark to examine packets
- Lab assignments included creating Python projects
- Units in Cybersecurity
- Studied cybersecurity & networking fundamentals
- Studied malicious/ethical hacking and types of hacking attacks
- Tested firewalls

Software Engineering (Capstone Requirement)

- Study of topics pertaining to: Object-Oriented Programming, Data Structures, Interfaces, Run-time and Compile-time Polymorphism, and Inheritance

Computer Systems

- Studied computer systems fundamentals
- Analyzed assembly code of C programs

Data Structures & Algorithms

- Solved data algorithm problems related to recursion, hashing, and linked lists

Introduction to Cloud Computing

- Studied cloud computing technologies
- Virtualization, containerization, and orchestration

Certificates & Activities

- **Microsoft Certified: Azure Administrator**
- **Microsoft Certified: Azure Fundamentals**
- **Microsoft AI Skills Challenge**
- **Cisco Certified Support Technician**
- **West Chester University Computer Science Club**
- **Published AWS Web App (See blog)**

Skills

- Cloud Computing
- Microsoft Azure
- Computer Networking
- Java, C, Javascript, React, & Python Programming
- Site Reliability Engineering
- Network Management
- DevOps
- Cyber Security

Sales Associate

*Auto Zone | West Chester, PA
September 2019 – March 2020*

- Helped customers find the parts they needed
- Conducted Check Engine Light inspections to diagnose auto issues and recommended products or methods to help
- Performed general car maintenance (poured engine oil, switched old bulbs for new ones, tested and swapped in new batteries)

Lobby Attendant

*Valley Forge Towers | King of Prussia, PA
June 2017 – September 2018*

- Worked the front desk at the Valley Forge Towers gym
- Was responsible for operating events in the club party room
- Handled maintenance within the clubhouse