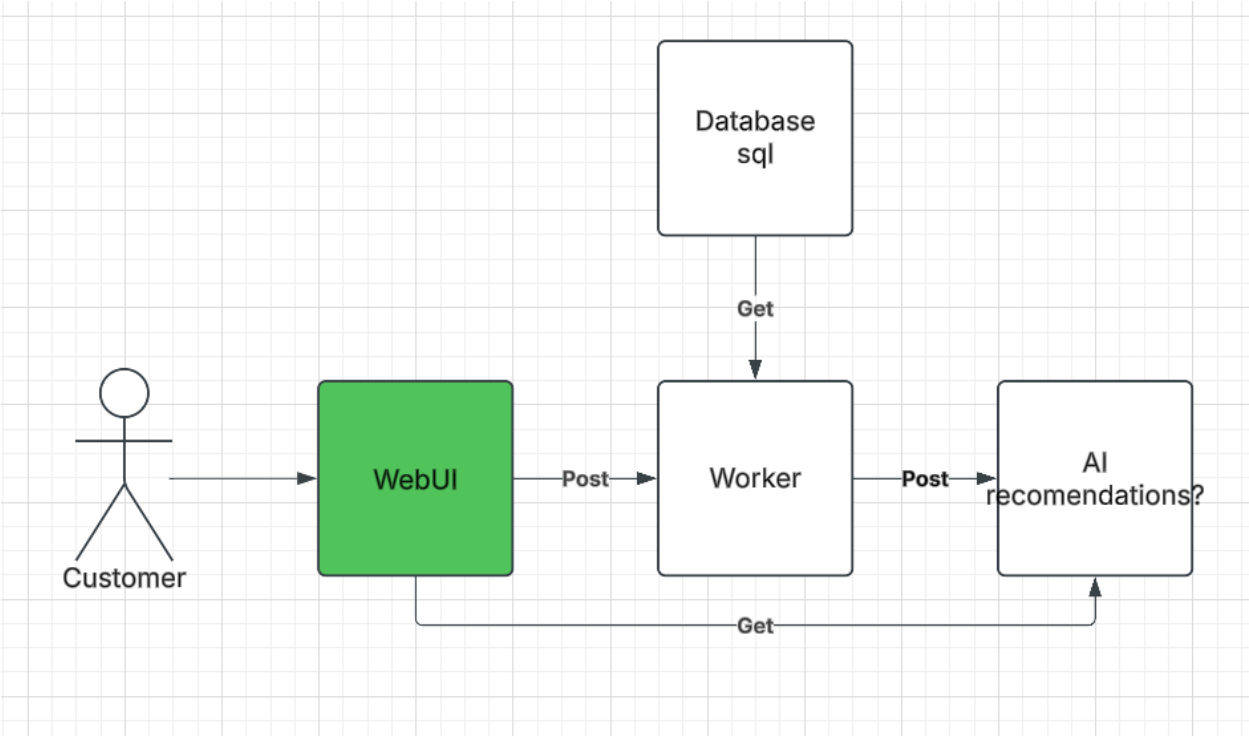
“StyleMe”

The Stackoverflowers
Chris Eardley, Danny Halovanic, Haja Koroma, Sebastian Tran

Chapter 1: Team Vision

Fashion and styling have been more important now than ever. With social media usage at an all time high, influencers and celebrities set trends that shape how people dress and present themselves to the public. However, finding the right outfit that perfectly compliments someone's physique and fits within the budget can be challenging. That's where our team, the Stack Overflowers, comes in.

Our Fashion App (Name TBD) is designed to help users find clothing that suits them best. Users can upload a full body photo, and our system will analyze their body shape using computer vision techniques. Based on that analysis, the app suggests clothing options that flatter their figure while staying within their specified price range.



A cloud based architecture will be used as the foundational design of our app. Our Fashion App is designed as a distributed system with several core components. The core components of our system include: WebUI, Worker, Database, and AI recommendation system.

First, the WebUI is the main interface where users upload their full body photographs and select their preferred price range. Afterwards, the WebUI sends the uploaded image along with the user preferences as a POST request to the Worker.

From there, the Worker manages the incoming data along with collecting the necessary data (e.g., past user preferences, saved styles) from the database to send to the AI recommender. It also adjusts the database to the filters the user may use. The worker essentially acts as a hub.

The Database (SQL) stores the users (gender, measurements), the products (sizes, color, price, brand).

Meanwhile, the AI Recommendation Engine analyzes the uploaded image, determines the user's body type, and provides suggestions based on physique and price range. The recommendations are then sent back to the Worker which updates the Database and forwards the response.

Lastly, the WebUI receives all of the recommendations the engine suggests and displays the details about the suggested outfits to the user.

For other design considerations, it may be possible to skip the hub all together and send all data to a large combined component that controls both the database and the recommendations. Either way, there is complexity in splitting the components as well as in implementing one large one.

Chapter 2: Implementation Proposition

In this chapter, we propose how each component in our architecture may be implemented to address the technical requirements established in chapter one. Moreover, we discuss the technologies that we plan to use in each step of the process on a per component basis.

A challenge pinning the entire process is how to send an image from the WebUI all the way to the recommendation system. Form Files may be used, but it is critical to ensure that all components are able to accept and send them to another. Notably, Form Files are present in most web frameworks, which hopefully will ensure compatibility across components. More broadly, enabling the docker containers to send data back and forth between each other is another challenge to address as well. Setting up the infrastructure will undoubtedly become a step in our implementation.

Several options are available to develop and implement the WebUI with. Base Javascript and HTML is a viable option so long as it has the ability to interact with the backend components. If more utility is needed, then we can add a specific javascript library. However, most of the team does not know javascript, so some work will have to include learning.

The planned use of the worker is to bundle together the form file along with the necessary information in the database into a JSON file before sending it to the recommendation system. We can implement an ASP.NET core CORS API to fulfil the role of a hub. LINQ would make accessing and working with the database simple. Though, as suggested in chapter one, a design without a worker may also be possible. In this case, we use a direct connection to the recommendation system, and we ignore this step.

For the recommendation system, Python libraries could be used. For instance, A library called OpenMMLab is used for pose estimation, which is helpful for determining body proportions. Estimating proportions could be an important part of what clothes are recommended. Another database connection would be needed for storing the clothing items with their information as part of the system.

Team Resumes:

Sebastian Tran

transebastian91@gmail.com - 215 284 9916 - sebastiantran.azurewebsites.net

Education

West Chester University of Pennsylvania, GPA: 4.00 *August 2023 - May 2026*

Accelerated MS + BS Computer Science, Minor in Applied Statistics West Chester, PA

Relevant Coursework

Applied Statistics, Discrete Math, Computer Systems, Foundations of CS, Data Structures and Algorithms

Experience

Vans *November 2022 – August 2023*

Sales Associate Pottstown, PA

- Assisted Customers in product selection through knowledge of products and communication skills.
- Worked through holidays with high traffic, relying on teamwork to maintain a high level of satisfaction.

Personal Projects

Personal Website C#, ASP.NET Core, Blazor, SQLite, CSS *October 2024 - present*

- Used SQLite to store image file locations and metadata then retrieve them with LINQ asynchronously.
- Implemented interactive Blazor components with server-side rendering and component routing.
- Deployed to cloud with Azure App Service

Spam not Spam Python, MatPlotLib *September 2024 – December 2024*

- Analyzed emails in a large dataset, then categorized them using k nearest neighbors.
- Made to be adaptable to different text datasets and visualize complex data graphically using MatPlotLIb.

Rambot B C++, PROS, VEXCODE *February 2023 – April 2023*

- Lead programmer for the 2023 Spring-ford robot, Rambot B, in the 2023 Vex Robotics Spin Up competition.
- Experimented with computer vision, odometry, and optimizing PID control.
- Scored 2nd in autonomous programming win points at the state competition, securing a finalist position.

Honors And Awards

AP Scholar With Distinction *July 2023*

- Awarded to students who challenged themselves and excelled in rigorous coursework.

Create Award, Spin-Up High School Invitational at Norristown *March 2023*

- Awarded to the robotics team that developed the most unique solutions to solve game objectives.

Organizations

Secretary - Asian Student Association *September 2023 – present*

- As secretary, helped promote ASA by taking pictures of events and directly engaging with the community.
- Wrote weekly emails encouraging members to attend meetings, increasing member participation.

Skills

- **Software:** Microsoft Office: Word, PowerPoint, Excel; IBM SPSS statistics
- **Skillsets:** Object Oriented Programming, pseudocode, debugging & testing, git
- **Languages**: JavaScript & html, C, C++, Java, Python, C#, R

Christopher Eardley

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Objective:

Seeking a summer internship in computer science to further enhance my programming and problem-solving skills. With a solid foundation in languages such as Java, C#, C++ and Python, I am eager to apply theoretical knowledge gained in the classroom to real-world projects. Dedicated to contributing innovative solutions, collaborating with diverse teams, and gaining valuable hands-on experience in software development.

Education

Easton Area High School, Easton. Pennsylvania Graduated June 2022
Relevant Coursework: Computer Science Discoveries, AP Computer Science Principles, AP Computer Science A, AP Calculus AB, Advanced Data Structures.
Activities: Easton Area Marching Band, Varsity Tennis team, Computer Science Club.
GPA: 3.70

Northampton Community College, Bethlehem, Pennsylvania. August 2022 - May 2024
Associate of Science in Computer Science
Relevant Coursework: Computer Science I & II, Calculus II, Data Structures & Algorithm Analysis, Discrete Math, Statistics, Database Systems, Computer Organization.
GPA: 3.30

West Chester University of Pennsylvania, West Chester, Pennsylvania. August 2024 - Present
Currently working towards Bachelor of Science in Computer Science
Activities: Tennis Club, Ski and Snowboard Club, Biomedical Engineering Club.
Expected Graduation – May 2026
GPA: 3.80

Work Experience

Ingersoll Rand Power Tools and Lifting; 53 Frontage Rd, Hampton, New Jersey May 2024 – August 2024
Embedded Software Engineer: Summer Internship

- Reprogrammed a Python-based Open Protocol Simulator (OPS) that facilitates communication between assembly line equipment and master controller modules, which collect, document, and analyze data from the tools. The simulator evaluates the logs generated by the controller to assist in troubleshooting the protocol.
- Configured C-Code to enable the display of multiple images on LCD modules connected to a Raspberry Pi5.
- Worked collaboratively with fellow summer interns to plan and execute an employee engagement event for the entire office.
- Engaged in various organized learning activities, including circuit board soldering, program management, standard work practices, 3D printing, and topics related to innovation and intellectual property.

Giant Food Stores; 301 Town Center Blvd, Easton, Pennsylvania September 2020 - Present
Giant Food Stores; 698 Downingtown Pike, West Chester, Pennsylvania
Store Associate: Cashier, Grocery, Gas station attendant.

Nick's Lawncare and Landscaping; Easton, Pennsylvania May 2018 – September 2021
Co-owner (brother): Maintain 20+ accounts for weekly maintenance of lawns, Landscaping, planting and mulching. equipment maintenance and repair.

Relevant Projects

Online hall-pass system for schools January 2022 - June 2022
A collaborative member of a student team tasked with developing an online hall pass system designed to track, oversee, and preserve a record of hall pass privileges, incorporating various access levels according to user roles (student, faculty, administrators). Employed Microsoft Visual Studio and C# programming for implementation.

Link List Project (to-do) October 2024 - December 2024
Using IntelliJ Integrated development environment I created a show-usage linked list in Java to prompt a user to select options (add, remove, list, next, and quit) upon startup. Coding was written using Java.

Relevant Skills

Programming: C, C++, C#, JAVA, Python.
Software: Microsoft Office, Microsoft Studio and Visual Studio code, GitHub Codespaces, IntelliJ IDEA.
LinkedIn Learning Course: Programming Concepts for Python – Completed May 12, 2024.
Communication: English (native), German (HS Language class)

Hobbies and Interests

Fitness, Tennis, Music, Snowboarding, Bowling, Disc Golf, Video Gaming, Computer and electronics construction and repair.

Haja Z. Koroma

koromahaja283@gmail.com || 267-515-2642 || Greater Philadelphia

Creative and driven Computer Science student with experience in product operations, IT support, and technical problem-solving, proficient in Java, and network activations. Successful TikTok/YouTube content creator specializing in educational content for youth, with skills in social media strategy, data analytics, and video production.

EDUCATION

B.S., Computer Science, **Minor in Digital Marketing, May 2026** || West Chester University

CS PROJECT:

- **Magic 8-Ball Simulation** https://github.com/hajak19/Eight-Ball August 2024
    - Developed a program simulating a Magic 8-Ball, utilizing Java for random answer generation.

SKILLS:

- **Languages:** Java
- **Tools:** Windows PowerShell, JGrasp, GitHub, Salesforce
- **Software:** Microsoft Excel, PowerPoint, Office, Word, VideoPad Video Editor, Adobe Photo Editor.

WORK EXPERIENCE:

College Brand Ambassador || **Cramify** || Aug. 2024 - Present || Remote

- Driving brand awareness by creating targeted TikTok and Instagram content promoting AI-powered study tools.
- Collaborating in virtual training sessions and maintaining weekly check-ins to align content with program objectives.

Intern, Technical Product Operations Specialist || **Comcast** || June 2024 - Aug. 2024 || Centennial, CO

- Identified risks and streamlined processes for installing advanced voice and ethernet services for small to medium businesses.
- Coordinated cross-functional teams to ensure the timely and accurate execution of service orders.
- Assisted with the management of complex product installations, troubleshooting, and customer satisfaction.

IT Help Assistant, **Help Desk** || **West Chester University**, Library || Aug. 2023 - Present || West Chester, PA

- Providing technical support to students and staff, troubleshooting hardware, software, and network issues both in-person and remotely.
- Streamlining issue resolution process by improving ticket response time and offering personalized support, enhancing user experience and satisfaction.

Retail Sales Associate || **CVS Pharmacy** || May 2021 - Present || Yeadon, PA

- Ensuring accurate transactions and addressing customer inquiries, enhancing satisfaction and retention through attention to detail.
- Managing inventory and restock shelves efficiently, maintaining store organization and contributing to smooth operations.

Content Creator || YoutTube || April 2019 - Present

- Leverage data analytics and trends to identify content opportunities, produce engaging and informative content, and optimize promotion—garnering 7,000 subscribers, with a focus on Gen-Z.
- Secured and facilitated 50 paid endorsement and advertising deals by building relationships with brands, negotiating terms, and creating tailored promotional content that enhances brand visibility.

AWARDS

- Phillip Fuch Computer Science Scholarship, 2024
- NCNW Bethune-Height Collegiate Career Accelerator, 2024-2025
- Reverend Anderson Porter Scholarship, 2023
- Bonnie Clarie Bruno Scholarship, 2022
- ICU Scholarship, 2022

LEADERSHIP AND PROFESSIONAL DEVELOPMENT

Rising Changemaker || **National Coucil of Negro Women** || August 2024 - Present

- Engage in mentorship with Black women professionals, participating in masterclasses and conferences focused on career development.
- Network with industry leaders, gaining access to exclusive internships and job opportunities.

Public Relations Chair || **NCNW**, West Chester University || May 2023 - Present || West Chester, PA

- Spearhead public relation campaigns and design social media strategies to elevate the National Council of Negro Women (NCNW) presence on campus, aiming to increase awareness of the organization's mission, events, and initiatives.

Member || **Computer Science Club**, West Chester University || Sep. 2022 - Present || West Chester, PA

- Organize weekly tutoring sessions for 20+ students, coordinating schedules, resources, and volunteer tutors to provide academic support in various computer science topics.

Mentor || **ICU (Intentionally Caring & United)**, Penn Wood High || Sep. 2022 - Present || Yeadon, PA

- Planned and coordinated events to implement tutoring, therapy programs and career coaching to under-represented high school students.

VOLUNTEER EXPERIENCE:

- Nile Swim Club Inauguration Ceremony Set Up and Breakdown; Christ The King Prayer Chapel Clean Up; Black Student Union Unity Day; West Chester University Move In Day 2023

INTERESTS:

- Video Editing; Content Creation; Real Estate Development; Coding; Mentoring; Volleyball; Photography; Writing

J. Daniel HALOVANIC dan.halovanic01@gmail.com 267-648-8545

OBJECTIVE Seeking an internship opportunity that allows for practical application of my computer science and mathematics skills.

EDUCATION Bachelor of Science in Computer Science
West Chester University, West Chester, PA
Expected Graduation: May 2025

Bachelor of Science in Applied & Computational Mathematics
West Chester University, West Chester, PA
Expected Graduation: May 2025
Cumulative GPA: 3.89

EXPERIENCE Mathematics Tutor
Mathematics Learning Center, West Chester University
August 2023 – present

Team Member & Trainer
Chick-Fil-A, Lansdale, PA
August 2019 – present

- Train new team members in customer service, cash handling, etc.
- Assist customers with orders in English and Spanish

Maintenance and Grounds Staff
Burn Brae Day Camp of Creative Arts, Dresher PA
June 2023 – August 2023

SKILLS R Programming
Python Programming
Mathematica Programming
Java Programming
LaTeX
Advanced proficiency in spoken and written Spanish

ACTIVITIES The INCOMPARABLE Golden Rams Marching Band
Fall 2021 – present

Computer Science Club
Fall 2021 – present

Phi Mu Alpha Sinfonia
Spring 2022 – present

Mathematics Student Association
Fall 2023 – present

AWARDS

- Academic Excellence Scholarship
- Mathematics Honors Scholarship,
- Dean's List (Fall 2021-Spring 2024)

PROJECTS Predictive Analysis with R

West Chester University – Fall 2023

- Developed a Model in R that was able to predict the probability of type II Diabetes in a population.
- Used R Markdown alongside ggplot2 to visualize data and write the results
- Analyzed a dataset using techniques learned in Numerical Analysis

RELEVANT COURSEWORK

- Data Structures and Algorithms
- Artificial Intelligence
- Calculus 1-3
- Numerical Analysis
- Real and Applied Analysis
- Ordinary Differential Equations