Niloy Saha

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EDUCATION

Hofstra University   New York, USA
Bachelor of Science, *Computer Science*   *Expected Graduation, May 2027*
GPA: 3.5
Related Coursework: ***Computing in Python, Advanced Data Structures, Algorithms and OOP, Software Engineering, Discrete Structures & Mathematics, Computer Operating Systems, Foundations of NLP & Text Mining***

The Complete Full-Stack Web Development Bootcamp   Date Issued: 20 Aug 2025
By Udemy
Completion Certificate: https://www.udemy.com/certificate/UC-60a6fb8e-10a6-4e5c-8f3b-b6ede6670c68/

PROJECTS

QuickGist Chrome Extension | GitHub Link

- Developed a Chrome extension leveraging the **OpenAI API** for real-time summarization of **web pages** and **YouTube videos**.
- Created a responsive and user-friendly frontend using **HTML, CSS, and JavaScript**, integrated with a **Python Flask backend**, enabling dynamic extraction of page and video content through efficient background scripts, resulting in improved interactivity and real-time data access.
- Improved extension performance by **40%** through **asynchronous data fetching**, Chrome storage optimization, and minimal payload design for faster summarization responses..
- Applied **prompt engineering & NLP techniques**, boosting summary relevance by **30%**.
- Scaled system to support **2,000+** daily summarizations with efficient API usage.

CourseCrafter AI | GitHub Link | Site Link

- Developed a full-stack **Node.js & Express** web app that generates structured AI learning courses from user-provided topics.
- Designed **dynamic course outlines** (modules, lessons, and resources) by integrating the **OpenAI API** and **YouTube Data API** with **Axios**.
- Delivered a **modern, responsive UI** using **EJS templating and Bootstrap**, ensuring accessibility across devices.
- Enabled seamless learning experiences by combining **AI-driven content generation** with curated **video resources**.
- Optimized backend performance, reducing API response times by **30%** through efficient request handling and caching strategies.

EXPERIENCE

Sugar Realms — 3D Base-Building Game, Hofstra University   February 2025 – May 2025
Developer — Core game functionality and UI

- Built core base-building systems (resource collection, structure placement, and upgrades) for Sugar Realms, improving gameplay scalability by 30%, by programming modular features in Unreal Engine C++ and Blueprint.
- Implemented advanced OOP design patterns (inheritance, polymorphism, component-based architecture) to create reusable gameplay modules, reducing code redundancy by 25%.
- Developed gameplay logic and UI interactions, including player controls and building menus, which enhanced player testing engagement by 40% by integrating C++ with Unreal's UI system.
- Collaborated in a 20-member team under agile methodology, achieving 90% on-time sprint deliverables by managing tasks through Git and issue tracking tools.
- Optimized game performance, boosting frame rate stability by ~20% in prototypes, by profiling memory usage and refining rendering logic.

SKILLS

- **Programming Languages:** Java, Python, C++, HTML/CSS, JavaScript, Dart
- **Technical/Programmatic:** MongoDB, SQL, SQLite, SQLAlchemy, PostgreSQL, NoSQL, JQuery, React.js, Node.js, Express.js, Flask, EJS, Jinja, Git, Axios
- **Concepts:** Data Structures and Algorithms, Object-Oriented Programming, Agile Methodologies, RESTful APIs, Natural Language Processing, Version Control, SDLC
- **Tools & Platforms:** GitHub, Visual Studio Code, PyCharm, Xcode, Postman, Unreal Engine.

EXTRACURRICULAR ACTIVITIES

Member, HOFSTRA C.O.D.E
Hofstra University

- Participate in weekly coding challenges and hackathons.
- Engage in peer-led workshops to explore emerging technologies.