Immersive Backend Engineering Bootcamp Syllabus

Here are some preliminary details of the course:
- **Course Length:** 8 weeks
- **Instructor:** Tony Kim (Software Engineer)
- **Schedule:** Every Saturday
- **Time:** 6 PM – 9 PM (CST)
- **Register here:** https://www.eventbrite.com/e/8-week-bootcamp-nodejs-expressjs-and-mongodb-development-tickets-526000199757

• WEEK 1-3: JavaScript Fundamentals + Git + Server Side Development
- **JS Fundamentals Covering (Week 1):**
    - Values & Types
    - Functions
    - Basic Data Structures (objects, arrays, sets, and maps)
    - Loops
    - Async Programming

- **Common Git Commands (Week 1)**

- **Server Side Development (Part 1) - (Week 2):**
    - What is Node.js
    - Intro to Server Side Development
    - Initiating a Node.js Project
    - Package.json
    - Node Modules
    - Intro to File Composition
    - Intro to Express.js
    - Network Status Codes
    - Intro to REST APIs
    - Request/Response Overview
    - What is a middleware
    - Endpoints and Query Parameters

- **Server Side Development (Part 1) - (Week 3):**
    - Request/Response Overview
    - What is a middleware
    - Endpoints and Query Parameters

- **WEEK 4-5: Database Integration with MongoDB**
    - **Database Integration with MongoDB (Week 4):**
        - Intro to Database
        - What is MongoDB
        - Relational Database Vs. Non-Relational Database
        - Intro to Mongoose
        - Defining parts of a Schema
        - Intro to Models
        - Making CRUD actions to Database
        - Connecting to Database

    - **Database Integration with MongoDB (Week 5):**
        - Sub Documents
        - Advanced Queries
        - Mongoose Middlewares
        - Validation
        - Mongoose Populate and timestamps

- **WEEK 6-8: API Security + Deploy**
    - **User Authentication (Week 6):**
        - Intro to User Auth
        - Adding state to network request
        - Sessions and Cookies
        - Intro to JWT
        - Password Hashing
        - Setting up User Authentication in our Project
            - JWT
            - Bcrypt
            - Error Handler Responses
            - Auth Middleware
            - User Schema
            - User Router
            - Auth Router

    - **User Authentication (Week 7):**
        - Expand Auth and User Router
        - Add for Reset Password
        - File Uploading
        - 3rd Party Authentication with OAuth + Passport

    - **API Security (Week 8):**
        - Log out to Clear Token Cookie
        - Prevent NoSQL Injection & Sanitize Data
        - XSS Protection and Security Headers
        - Rate Limiting, HPP, and CORS

    - **Deploy (Week 8):**
        - Render.com deployment & Server Log In
        - Prepare and Push to GitHub
        - Clone Repo on Server