

# NIKHIL VYTILA

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(669) 204-6198

## EDUCATION

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- **University of North Carolina at Chapel Hill** Aug 2018 – May 2021  
*B.S. Computer Science & B.S. Statistics and Analytics; GPA: 3.70* *Chapel Hill, NC*
  - **Honors:** Chancellor's Carolina Scholarship (full ride, academic merit), Honors Carolina
  - **Relevant Coursework:** AI, Files and Databases, Algorithms and Analysis, Computer Organization, Data Structures, Computer Security, Bioalgorithms, Data Sci. for Earth, Linear Algebra, Probability

## EXPERIENCE

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- **Capital One** May 2020 - Aug 2020  
*Software Engineering Intern – Enterprise Products & Platforms* *McLean, VA*
  - Designed, created, and launched Turing REST API for secure real-time consumer (NPI/PCI) data tokenization currently supporting **peak 2.5M TPS w/ 10B operations/day**. (*AWS S3/EMR, Docker, Lua, SQL*)
  - Engineered web app for internal token-based project development, improving auditing capabilities against insider security threats by **70% for 2500+ teams** company-wide. (*Angular, TypeScript*)
  - Trained and deployed scalable, multi-layer anomaly detection neural networks, increasing accuracy of error reporting for token-based development incidents by **2.1x**. (*Amazon SageMaker, Python*)
- **University of North Carolina School of Medicine** July 2019 - May 2020  
*Machine Learning Research Assistant* *Chapel Hill, NC*
  - **Gait Biomechanics Lab:** Spearheaded biomechanical vibration-based gait retraining device/app for chronic ankle instability under Dr. Kimmery Migel (funded by \$10K grant from UNC OUR/URCT). (*Poster*)
  - **Advanced Computational Medicine Lab:** Researched novel tissue clearing and 3-D microscopy methods for measuring neuron activity in patients with Alzheimer's disease. Deployed deep learning models using **Mask R-CNN** and longitudinal network analysis to visualize and identify cell segmentation in mice brains, achieving **93%+ accuracy** under Dr. Guorong Wu. (*Keras, Python, TensorFlow*)

*Conference Publications* – Wang Y, Yang D, Li Q, Kaufer D, Styner M, Wu G, “Characterizing the Propagation Pattern of Neurodegeneration in Alzheimer's Disease by Longitudinal Network Analysis”, IEEE International Symposium on Biomedical Imaging (ISBI) 2020, Iowa City, USA.
- **Fidelity Investments** May 2019 - Aug 2019  
*Software Engineering Intern – Personal Investing* *Durham, NC*
  - Developed, tested, and deployed REST API for data metrics analyzing **30M+** customers' daily transaction operations. (*Java, SQL, Postman, Jenkins*)
  - Built analytics dashboard using the **Splunk API** to measure relative efficiency of high-throughput core transaction APIs vs. legacy APIs, optimizing pipeline oversight by **80%**. (*Elastic Stack, Splunk, Tableau*)

## LEADERSHIP

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- **CS+Social Good ([github.com/unc-cs-sg](https://github.com/unc-cs-sg))** Aug 2018 - Present  
*Product Manager* *Chapel Hill, NC*
  - Lead a 15-person team and build web/mobile apps for local non-profits and student organizations that empower communities in areas like education, food security, sexual assault, mental health, and accessible tech.
- **HackNC ([hacknc.com](https://hacknc.com))** Aug 2018 - Present  
*Director of Sponsorship* *Chapel Hill, NC*
  - Direct one of the largest hackathons for social good in the US. Currently spearhead initiatives for D&I, lead partnerships with minority-focused accelerators/funds, sponsors, and non-profits, and oversee \$50K+/year.

## PROJECTS

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- **FloodGate:** Leveraged live, crowd-sourced text/location data for early flood warning and detection. (*Arduino/C, Flask, Google Maps/GCP, Twilio API, Python*) – Best Use of Twilio Award, HackDuke 2019
- **Onclass:** Founded and lead 501(c)(3) ed-tech non-profit since 2017. Designed and created custom, interactive educational tech for K-12 students across 20+ subjects (ex. VR lessons, collaborative online whiteboards, & reading proficiency apps), reaching **22K+ students in the US/India**. (*C#, Google Daydream, JS, Unity3D*)

## SKILLS

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- **Languages/Frameworks:** Python, JavaScript, C/Lua, Java, SQL, R, HTML/CSS, React, Node.js, TensorFlow, Flask, TypeScript, Angular, Postgres, Arduino/C++, Flutter, React Native, Swift, Android Studio
- **Technologies:** Linux, AWS (S3/EC2), GCP, Elastic Stack, Git, Docker, Postman, Jenkins, Figma/Adobe XD