I am writing to express my enthusiastic interest in the Python Engineer position on the Next Generation Communications Platform (NGCP) team at Carvana. As a recent software engineering graduate with hands-on experience in full-stack development, distributed systems, and a passion for leveraging AI/ML to enhance user experiences, I'm particularly drawn to Carvana's innovative approach to redefining the automotive retail landscape and the NGCP team's mission to revolutionize customer communication. I'm eager to contribute my skills and enthusiasm to a team that's pushing the boundaries of technology and customer service, and I'm confident I can quickly become a valuable asset to the NGCP team.  
   
My academic background in software engineering has equipped me with extensive knowledge of data structures, algorithms, software architecture principles and multiple programming paradigms. I’ve worked extensively with Java, Python, and C, applying these skills in both academic and real-world projects. In addition to high-level programming concepts like recursion, threading, and object-oriented design, I have experience with low-level programming, including memory management, bit manipulation, and register addressing, as well as some Assembly experience.  
  
During my internship at Grey-box Technologies, I collaborated with a talented team to design and implement an Android-based mesh network prototype that enabled seamless peer-to-peer decentralized communication for over 50 connected devices, reducing operational costs by 30% while significantly extending network coverage. As part of the team, I contributed to Linux kernel development to optimize device performance, implemented network protocols to ensure reliable data transmission, and utilized concurrent programming techniques to handle real-time communication efficiently. Together, we developed a scalable full-stack software architecture, ensuring the system could handle increasing device loads while maintaining high performance and reliability. This project showcased my ability to work effectively as a team member to deliver results-driven solutions.  
  
My technical background combines core development practices with modern DevOps tools and methodologies. I have experience implementing continuous integration/continuous deployment pipelines using GitHub Actions and Jenkins as well as streamlining development workflows and automating testing processes. My experience with Docker containerization and infrastructure as code supports rapid deployment and scaling of applications. At Grey-box Technologies, I applied Agile Scrum methodologies, participating in sprint planning, daily standups, and retrospectives while using version control through Git for collaborative development. Regular unit testing and code reviews ensured high quality, maintainable code throughout the development lifecycle. Additionally, I have strong references from both my academic mentor, Professor Ruben Acuna at Arizona State University, and my professional supervisor, Valentin Kravtchenko, CEO of Grey-box Technologies, who can speak to my technical knowledge and my ability to collaborate effectively within teams.  
  
Thank you for considering my application. I would love the opportunity to discuss how my background and skills align with this position. Please feel free to contact me at your earliest convenience. I am excited about the prospect of contributing to your team and would love the opportunity to discuss how I can make an impact.  
  
Sincerely,  
John S. Garvey