Dear Madam/Sir,

Please accept the enclosed resume as my application for Facebook AI Research Residency Program. I am applying for this residency because I believe I will be a perfect fit for this residency program, as it aims to enable young and highly motivated fellows with strong background in AI and ML to work alongside successful and established AI researchers and practitioners to conduct state of the art research. I believe this residency can provide me the perfect opportunity to polish my technical and analytical skills, collaborate and learn from relevantly experienced peers to excel and establish a career as a competent researcher and AI practitioner.

In the last 5 years, I have developed extensive theoretical and practical expertise and background of AI and ML, through academic projects to online courses to specialized Master's Degree. My coursework as a Computer Science Masters student at University of Freiburg in Germany revolves around ML, AI and their applications in Robotics and Computer Vision. This enabled me to indulge and gain relative research experience in AI. Participation in academic seminars and research assistantships aided me in developing the skills for scientific writing, analytical and systematic analysis of research studies and presentation and organization of scientific research. In order to keep up with the rapid progress in ML community, I participate regularly in AI reading groups, seminars and online avenues. I am experienced with Caffe, TensorFlow and Torch 7 for deep learning and Scikit-learn and Weka for more classical machine learning.

My aptitude in machine learning is also expressed through my Master Thesis: Semantic Segmentation of 3D Point Cloud Data using Deep Learning. This thesis addresses 3D scene understanding perception task for autonomous driving in urban environment using 64-channel LIDAR sensor by performing 11-class end to end semantic point cloud segmentation using ConvNets. This thesis elaborates the ability of CNNs to understand the scene using only the Lidar point cloud scans at a fine-grain level of each point. Apart from the Master Thesis, my research record is fairly precise, with two conference papers including my Bachelor thesis and course project work in Bachelor's degree.

However I do not possess a PhD degree and given the competitive nature of this residency program, I believe I possess most of the skills acquired during a PhD degree, including publishing research work, organizing and keeping up with the latest research, conducting individual and collaborative research, critically analyzing publications, writing and reviewing research papers, contributing to and leading open source research projects, presenting research work and defending your research among the community.

My future research interests lies in the broader domain of using machine learning to solve and automate real world problems. Stating a few, machine perception for scene understanding in robotics including autonomous vehicles, healthcare diagnosis, NLP, art creation and other generative tasks. I am also interested in developing and researching properties of neural network architecture and its comparisons and parallels with computational neuroscience.

As stated in my enclosed resume, I have more than 2 years of experience as professional software engineer. I am proficient in C++, Java, MATLAB and Python and have contributed to various industrial-grade as well as open source projects with my problem solving skills, encompassing applications across various domains, including machine learning frameworks, web, mobile, network, and computer graphics applications.

Concluding, I believe I will be a good fit for the program as I am already familiar with the literature and researchers in the AI community, which will allow me to quickly comprehend and build upon the existing knowledge. Moreover, the attributes of conducting independent research with minimal supervision,

quickly learning new technologies, strong background in mathematics, rapid implementation of proof of concepts and experience to integrate existing research into products should spark interest in my application. Thank you for taking time to review this application. I look forward to further correspondence.

Best regards,
Farooq Ahmed Zuberi
Email: farooqahmedzuberi@gmail.com
Tell: +4915216255435 / +4917685238383