Here's a **2-Month Roadmap** for your AI-Based Communication Assistant, incorporating the suggested improvements:

**📅 AI-Based Communication Assistant Roadmap (2 Months)**

**🟢 Week 1: Research & Planning**

✅ Define project scope and requirements.  
✅ Identify primary data sources (department website, FAQs, announcements, emails, student portals).  
✅ Research NLP and Speech-to-Text models (GPT, Whisper AI, BERT, etc.).  
✅ Design UI/UX for chatbot interface (text + voice input).  
✅ Establish security and authentication requirements.

**🟡 Week 2-3: AI Model Development**

✅ Implement **Speech-to-Text** conversion using Google Speech-to-Text API or Whisper AI.  
✅ Develop **NLP-based query processing** (train model to extract relevant responses).  
✅ Integrate **web scraping** (BeautifulSoup/Scrapy) to fetch website/FAQ data.  
✅ Connect to department’s **real-time announcement system** (if applicable).  
✅ Implement database (PostgreSQL/Firebase/MySQL) for storing queries and responses.

**🔵 Week 4-5: System Integration**

✅ Build backend using Flask/Django/Node.js.  
✅ Develop API endpoints for querying the AI model.  
✅ Integrate frontend with React (chatbot interface).  
✅ Implement authentication (OAuth or student portal integration).  
✅ Optimize query processing speed & response accuracy.

**🟠 Week 6: Security & Privacy Implementation**

✅ Ensure **data privacy measures** (no sensitive academic data exposure).  
✅ Implement **encryption & authentication** for user queries.  
✅ Perform **penetration testing** and **access control validation**.  
✅ Secure API endpoints from unauthorized access.

**🔴 Week 7: Testing & Optimization**

✅ Conduct **user testing** with students and faculty.  
✅ Measure **response accuracy and query resolution time**.  
✅ Optimize UI/UX based on feedback.  
✅ Improve AI model to handle **complex/multi-turn conversations**.

**🟣 Week 8: Deployment & Evaluation**

✅ Deploy on web & mobile platforms.  
✅ Monitor system performance and user engagement.  
✅ Gather **final feedback** and make necessary refinements.  
✅ Prepare a **post-launch improvement plan**.

**🎯 Expected Deliverables in 2 Months:**

✔ AI-powered chatbot for computing students (voice & text).  
✔ Secure and **privacy-compliant** communication system.  
✔ Integration with department **website, FAQs, and student portal**.  
✔ **Web & mobile-ready** deployment with optimized user experience.

Would you like any modifications or additional details? 🚀